Bailway Age Founded in 1856

BYERS

This plant COMES

a proven answer

common maintenance

UP with
to a
problem

WROUGHT /RON

The Library of

Congress

Railroads have been one of the largest single users of coal for years, and so have had plenty of opportunity to observe the corrosive action of coal smoke, and to learn what to do about it. This stack, recently erected at the Pine Bluff (Ark.) shops of the St. Louis Southwestern Railway Lines is a good example of what many do: fabricate with Byers Wrought Iron.

No one can say how long any particular stack will last, because conditions vary too much. But where an unlined metal stack can be properly used, correct design and materials will definitely make it last longer. The weight of the evidence indicates the "correct" material is generally wrought iron.

The best evidence of durability comes from direct comparative records . . . like the installation where the top 30-ft. section of a 65-ft. stack was made of low-first-cost material, and the bottom of wrought iron. In 28 years of service, the top section was replaced twice—an average life of 9 years. On the third replacement, wrought iron was used. It was still serving 20 years later when the stack was dismantled . . in fact, both top and bottom sections were so good that the stack was sold and re-erected.

The acids formed when carbon and sulfur compounds are absorbed by moisture will attack any commercial stack metal. Wrought iron's defense comes from its unusual structure. Tiny fibers of glass-like

PEB 6/ 1945

silicate slag, threaded through the high-purity iron body, halt and deflect corrosive attack, and discourage pitting. Also, these fibers anchor the initial protective film, which shields the underlying metal.

Our bulletin, "Wrought Iron for Flue Gas Conductors and Coal Handling Equipment," gives helpful information on smoke corrosion. We will gladly send you a copy.

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS GENUINE WROUGHT IRON TUBULAR AND HOT ROLLED PRODUCTS

ELECTRIC FURNACE ALLOY STEELS · OPEN HEARTH ALLOY STEELS CARBON STEEL TUBULAR PRODUCTS

UNIT TRUCK

Simplicity



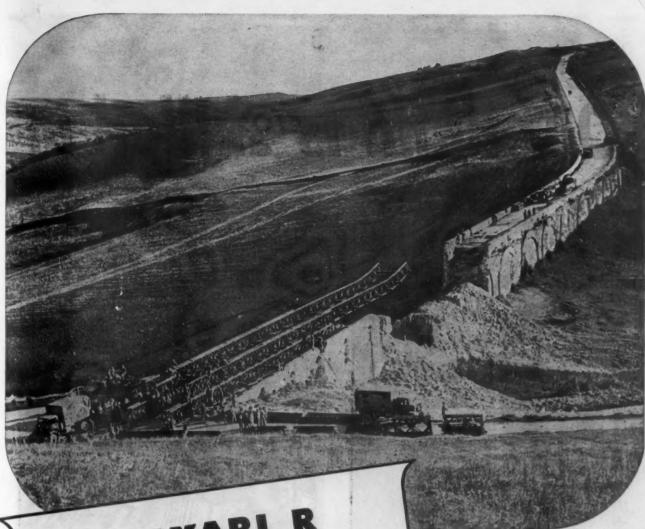
In Daily Service

UNIT TRUCK CORPORATION

140 CEDAR STREET

NEW YORK, 6. N. Y.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price \$6.00 for one year U. S. and Canada. Scents each. Vol. 118, No. 5.



MAYARI R makes stronger, lighter portable bridges

Normally, the retreating Nazis could count on a considerable margin of time, until Allied engineers established bridges substantial enough for communications and supply lines. But not in this war!

On the double, the engineers set up steel trusses in ten-foot sections, each easily handled by six men. These interchangeable steel members are quickly fastened together by pins, rather than by bolts or rivets. In almost no time at all, a bridge has risen on rollers on the river bank—and with a heave-ho the engineers push it out across the water. Soon vehicles and men are rumbling across.

Such is the Bailey Bridge, designed by Donald C. Bailey of the British Ministry of Supply. (Mr. Bailey's plan, when accepted, was just a sketch on the back of an envelope.) Successfully used in Tunisia, Sicily and Italy, the Bailey Bridge has long been standard British and U. S. Army equipment, although its story could not be told until recently.

In various combinations of trusses the bridge serves many purposes. Three tiers high, it carries light railway loads. Clear spans are possible up to 240 feet. Short spans have been thrown across streams in as little time as half an hour—which explains the bridge's role in the swift Allied advance through France.

Many Bailey Bridges, now in use in Europe, were fabricated from Mayari R,* Bethlehem's low-alloy weight-saving, high-strength steel. It's an ideal steel for the purpose, and it will be ideal

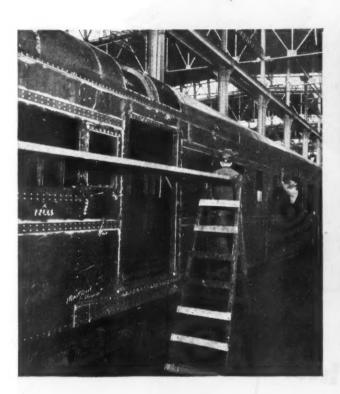
for postwar uses—bridges, industrial and mining equipment, railway stock, truck and bus bodies, building and ship-building members, and literally hundreds of others—where great strength, reduction of dead weight, workability, superior welding qualities and resistance to corrosion are factors.

If you would like to have all the facts about Mayari R, which is available in sheets, strips, shapes, plates and bars, write to Bethlehem Steel Company, Bethlehem, Pa., for booklet telling the complete story of this remarkable steel.

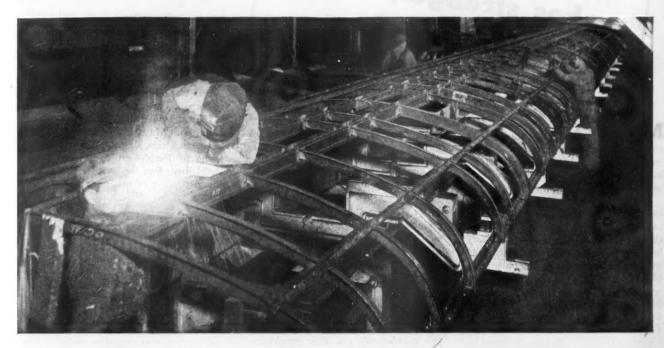


*Named for the Cuban mines where natural ore was found containing the iron and alloying elements of Mayari. The "R" stands for "Rust Resisting."

Our hand is skilled in







manymetals

OUR MIND IS OPEN TO ALL!

Builder of 2,000,000 freight and passenger cars in the present century alone . . . Q.C.f. stepped not a bit out of character when called upon to construct 15,000 fighting tanks—and fast! True, the requirements were different—but so are one railroad's from another's for normal service.

Starting from scratch, we developed our own formula—heat-treating 241,000 tons of homogeneous and case-hardened steel for tanks and armor plate for other manufacturers. Converted into railroad rolling stock, this tonnage would build 5,364 coaches or 6,886 tank cars; 15,093 box cars or 14,200 open type hopper cars—or 14,100 high side gondola cars.

Today, we are again constructing passenger cars at our St. Charles plant. They are hospital cars of carbon steel — specially designed from the ground up to provide the utmost in comfort and care for the wounded of our Armed Forces. These cars are a marked advance over anything previously known for this type of service. And equally advanced . . . will be the Q.C. f.-built coaches, club and dining cars of carbon steel . . . low alloy high-tensile steel . . . aluminum alloys . . . and stainless steel sheathing that will be needed by our railroads.

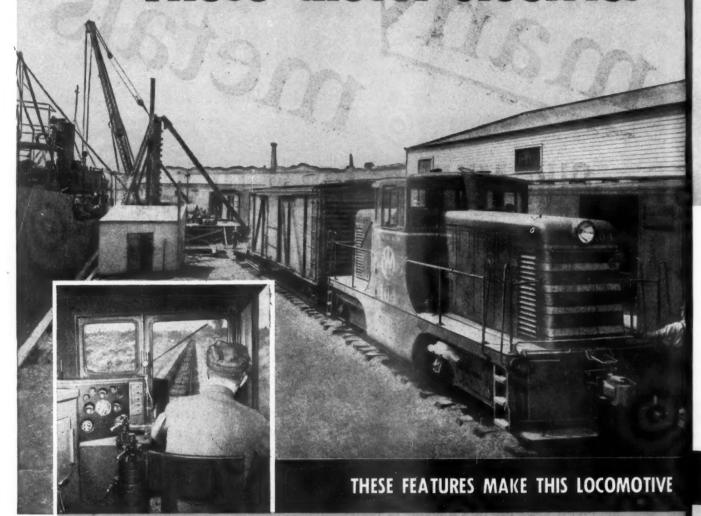
Q.C.f.

AMERICAN CAR AND FOUNDRY COMPANY

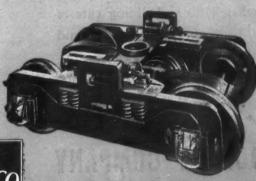
NEW YORK • CHICAGO • ST. LOUIS • CLEVELAND • WASHINGTON PHILADELPHIA • PITTSBURGH • ST. PAUL • SAN FRANCISCO

Whatever a.C.f. Builds - it is Known to Build Well!

"These diesel-electrics



The engineer has an unobstructed view of the tracks. The conveniently grouped throttle, and air-brake handles are within arm's length, and the engineer can see the instrument panel without diverting his attention from the tracks.



The electric drive on this 44-ton locomotive is made specially for railroad service. It provides full utilization of engine horsepower over a wide range of locomotive speed. The four-cycle diesel engine and its generator are mounted on a common bed-plate to assure perfect alignment.

Two-exis equalized swivel trucks provide a flexible wheelbase which, with the light axis loading, enables these locomotives to negotiate sharp curves without rail-climbing or rail-spreading.



AMERICAN LOCOMOTIVE

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February 3, 194

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on this 44-ten locospecially for railroad it provides full utilizaengine horsepowes wide sange of locomomend. The four-cycle line and its generator are mounted on a common bedplate to assure perfect elignment.

TIVE

RAILWAY ACE

pay dividends 3 ways

- 1. MORE WORK—by handling a 60% increase in switching
- 2. LESS EXPENSE—by reducing operating cost 30%
- 3. GOOD WILL—by eliminating noise and soot"

H.W. Jones, Freight Agent New York, Ontario & Western

AT 30 per cent less operating cost, the NYO & W is handling 60 per cent more switching at Fulton, N. Y., with two 380-hp diesel-electrics than it did with the two steamers they released. The diesel-electrics, available 24 hours a day, are providing extra locomotive-hours by eliminating time-consuming stops for fuel, water, and servicing. They carry a sufficient fuel supply for 50 to 60 hours of operation.

Since they were placed in service, a little less than three years ago, these diesel-electrics have been making an attractive return on their investment. Water costs that, amounted to \$1500 a year have been eliminated. Fuel costs per diesel-electric locomotive-hour are \$.45 as against \$2.10 per locomotive-hour for the steamers. And engine-house expense has been cut 30 per cent.

The NYO & W's shippers like the dieselelectrics too! One plant, manufacturing an army food product, reports that, since the smoke and soot nuisance of the steamers has been eliminated, its high cleanliness standards are easier to maintain. At another plant, where the noise of the steamers distracted office workers and interrupted important conferences, the diesel-electrics work unnoticed.

When applied to all three jobs for which it is admirably suited—switching, transfer service, and road work up to 35 mph—this diesel-electric will produce notable operating economies. Its versatility and average availability of 95 per cent permit almost continuous utilization—thereby increasing its earning power.

For heavier motive-power requirements, Alco-G.E. builds a complete line of diesel-electrics which includes 660- and 1000-hp switchers, a 1000-hp road switcher, and a 2000-hp road loco-motive. They are backed by more than 150 years of combined experience in engineering, building, and applying motive power for railroads. We build all three types of motive power—diesel-electric, electric, and steam—and will welcome an opportunity to recommend the one which is best suited to your particular operation.

BUY WAR BONDS

EASY TO OPERATE AND MAINTAIN



All-welded construction produces the sturdiness necessary for reilroad operation, and the smooth appearance of this "sleekline" locomotive.

and GENERAL ELECTRIC

A new step in passenger car construction



Will-by eliminating noise and scot.

Milling Will-by eliminating noise and scot.

Milling Will-by eliminating noise and scot.

R A I L R O A



Gleaming fluted panels of aluminum against a background of royal blue will bring modern beauty to the new Louisville & Nashville Railroad Company's aluminum passenger cars now ready to be built.

Planned for immediate construction are 20

coaches and 4 dining cars-using Alcoa Alumilite-finished Aluminum for the exterior paneling.

All were designed by American Car & Foundry, Louisville & Nashville, and Alcoa engineers.

ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh 19, Pennsylvania.

*Process Patented



ALCOA ALUMINUM



COPPER

В

.. IS BASIC

From 1500x microscopy to pilot-plant testing,
Research here seeks constant product betterment

In the General Cable Research Laboratory at Bayonne one soon becomes conscious that this unit is not just a laboratory but an institution on which the technical advance of an industry largely depends. At what speed rate can continuous annealing of copper be accomplished? How control materials for more perfect surface finish? What refinement of raw material and process specifications for specific use-applications? General Cable scientists delve deeply that the end product may be still more serviceable, of still greater uniformity, and of no greater cost.

GENERAL CABLE CORPORATION



Manufacturers of Bare and Insulated Wires and Cables for Every Electrical Purpose

- A Grain structure of annealed hard drawn
- B Grain refinement of Hot Rolled Rod – X200
- C Elongation of grains in longitudinal section of wire—X1500

O. K. in the past . . . but now they



POSTWAR PASSENGERS WILL PATRONIZE CARRIERS THAT OFFER THE MAXIMUM

Modernize with Westing

expect

AIR CONDITIONING

A MODERNIZATION "MUST" YOUR PASSENGERS WILL DEMAND

Every railroad executive admits that one of the most serious challenges the railroad industry will face after the war will be in the field of passenger transportation. Obviously, there's no "pat" answer to so complicated a problem. Its successful solution depends upon ingenuity in providing even more economical . . . comfortable . . . attractive travel.

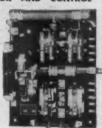
One comfort passengers will demand on all cars is air conditioning. Passengers remember "sweating it out". So it's a good competitive idea to air condition throughout—even down to commuter coaches.

Westinghouse compressor motors and control are ready for inclusion in your plans. For details, ask your Westinghouse Office for a copy of "Development of Electrical Equipment for Standard Railroad Passenger Cars."

J-95094

WESTINGHOUSE COMPRESSOR MOTOR AND CONTROL





Compressor motor is of strong, lightweight construction...compactly designed to occupy minimum space. D-c motor is rated 10 hp, 72 volts, 1750 rpm, weighs only 575 lbs, and is available for ceiling or floor mounting. Class B insulation is provided on all windings, For details ask for Passenger Car Specifications 1.

Motor control equipment provides. (1) Interlocking operation of evaporator unit blower and compressor motor. (2) Car battery protection. (3) Motor protection. (4) Thermostat control. Control is specially designed to meet severe conditions of railway service. For details ask for Passenger Car Specifications 2.

RAILROAD ELECTRICAL EQUIPMENT



Another billion dollar highway



In thinking about work after the war, don't overlook the 230,000 miles of steel "highways" which the railroads have built and maintain at their own expense. These "highways" provide jobs for more than a quarter of a million men working on construction and maintenance of tracks and roadway — jobs for more than a million other railroad workers—besides still other thousands in the mines, the mills and the forests where roadway materials and supplies are produced.

More than that—the railroads pay real taxes on these "highways," not for their own special benefit, but for the support of schools and other general services, including public highways and streets.

After the last war, between 1920 and 1930, the rail-

roads spent more than four billion dollars for improvements on these "highways," and in addition more than three-and-a-half billion dollars for betterments in equipment. After this war, a similar program will be required.

So there's another highway program which could make a lot of postwar jobs, and which needs no more than a public policy of treating all forms of commercial transportation alike—letting each one pay its own way, which includes the payment of the general taxes upon which governmental services depend.



ASSOCIATION OF
AMERICAN RAILROADS
All United for Victory

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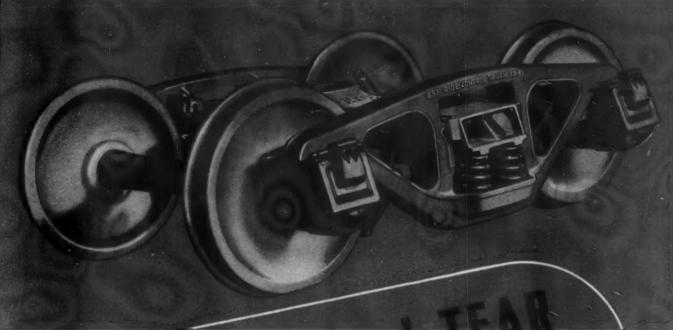
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THE TRUCK FOR TODAY'S NEED . . . TOMORROW'S SPEED!



CUT WEAR and TEAR and ROADBED CARE!

NO SPRING PLANKS

Because the A. S. F. Ride-Control Truck (A-3) prevents destructive harmonic oscillation, no heavy rhythmic pounding is transferred from rail to roadbed. Rail-end batter, too, is reduced. And, since lateral truck motion is also controlled, cars ride evenly-without the swaying that otherwise exerts damaging pressures first on one side of the roadbed, then on the other. In addition, the Ride-Control system of balanced friction pressures prevents the roadbed wear often attributed to trucks that tend to go out of square in rounding a curve. This truck not only cushions the lading that it carries but is easy on rail equipment and roadbed as well.

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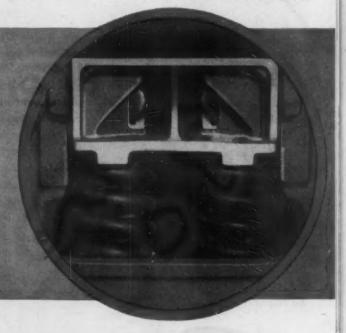
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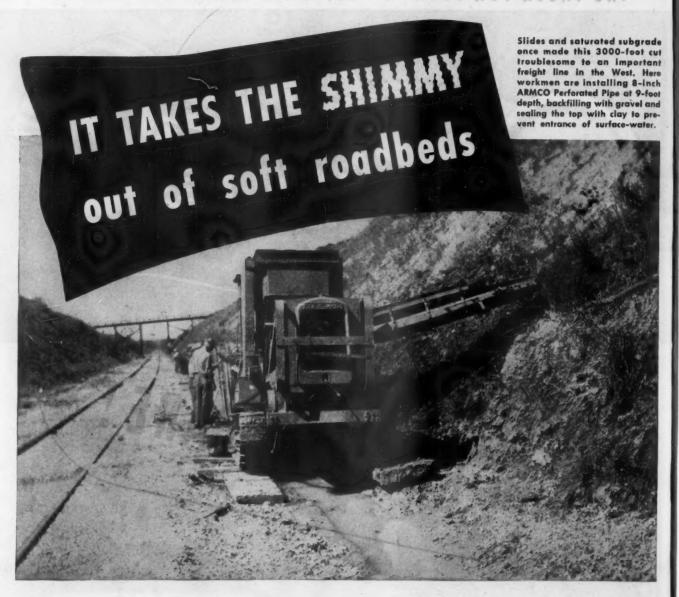
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AMERICAN STEEL FOUNDRIES

CHICAGO





Water pockets are unwelcome bedpartners on any rail line. They soften the subgrade, give roadbeds the fidgets, and are a constant source of worry and expense.

Strong, tight-jointed Armco Perforated Pipe is a sure cure. Proper use of this durable pipe assures fast, efficient subdrainage—either in old or new roadbeds.

For years this western rail line was plagued by trouble-making groundwater. Maintenance costs were high. So engineers installed ARMCO Perforated Pipe. Now, thanks to a firm dry subgrade, it costs far less to keep the roadbed in top shape. It will stay that way too.

ARMCO Perforated Pipe resists crushing and disjointing. Flexible, corrugated metal design and strong, tight joints see to that. It ends your worries over traffic vibration, heavy loads, shifting soils or frost action. This sturdy pipe is easy to install. No special tools are needed. Long lengths are quickly joined by sturdy coupling bands to form a strong, trouble-free conduit. The job soon pays for itself in lower maintenance costs. Ask us for the facts. Write the Armco Railroad Sales Co. Incorporated, 281 Curtis Street, Middletown, Ohio, or to our nearest district office.





ARMCO PERFORATED PIPI

POHLER TODAY!

It's the

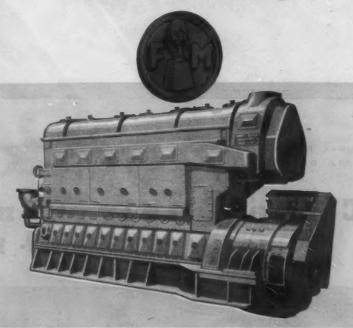
Opposed-Piston

Diesel Locomotive

by

FAIRBANKS-MORSE

A name worth remembering



February 3, 1945

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17

Molybdenum steel locomotive axles have proved their worth in hard, continuous service.

CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS.



MOLYBDIC OXIDE, BRIQUETTED OR CANNED . FERROMOLYBDENUM . "CALCIUM MOLYBDATE"

Climar My ly on m Company
500 Har Avelue New York Lity

Report February 3

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RAILWAY AGE

Report No. 6 on the latest advance in railroad communications







maintains constant vocal contact between

engine and caboose from coast to coast.

Bendix V.H.F. (very high frequency) radio wrote a brilliant new chapter in railroad history when a seventy-car freight train of the Santa Fe Railroad crossed the continent with Bendix end-to-end V.H.F. communication.

Across mountains, deserts and plains, and under every conceivable type of weather condition, constant vocal contact was maintained between the engineer and the conductor during the entire run.

Switching into sidings was handled without hand signals—a warning that a box car door was open was signalled by a station operator to the conductor who promptly notified the

engineer over his "private line" of Bendix V.H.F. radio. Warnings of a hot box, the need to pull ahead to clear crossings were also conveyed instantly from the caboose to the engineer.

As a result of the test, a Santa Fe official said, "The use of radio has many possibilities in increasing the efficiency of both train and yard operations and also in easing the work of trainmen."

If you would like detailed facts on this run and other tests conducted by Bendix write to Bendix Radio—first to develop V.H.F. radio equipment for the railroads.

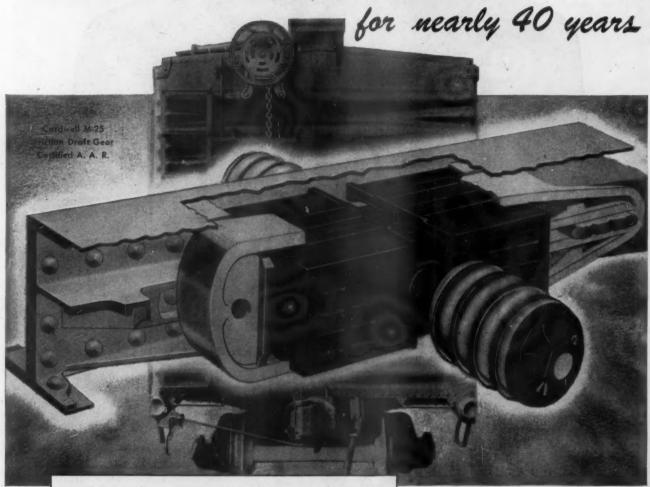
BENDIX IS A TRADE MARK OF BENDIX AVIATION CORPORATION

Bendix

RADIO DIVISION

BENDIX AVIATION CORPORATION, BALTIMORE 4, MARYLAND

rotecting rolling stock investment



Out in Front

to absorb shocks at the couplings

-thus protecting the entire car structure.

Over 98% of the cars in freight carrying service are A. A. R. construction and over 96% have Friction Draft Gears.

Cardwell Westinghouse Co., Chicago Canadian Cardwell Co., Ltd., Montreal

RACOR. GUIDE TO BETTER RAILROAD OPERATION

incorporates the latest features of safety and suggedness.



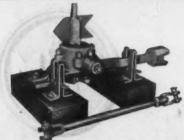
RACOR RAIL BOUND MANGANESE FROG

Racor rail bound manganese frogs for main line use and for busy yards will give many times the life of ordinary frogs. Surfaces subject to heaviest wear are protected by manganese steel, the tough metal which hardens under the blows of traffic. Railbound manganese frogs are furnished in all angles. Plates are furnished when specified.



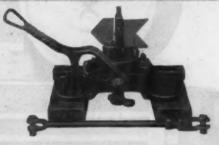
RACOR RAIL LUBRICATOR

Simple to install. Automatic in operation. Rail lubricators reduce wheel friction on curves, permitting train loads or speeds to be increased. One lubricator will grease several curves even though they may be miles from the distribution point.



RACOR PARALLEL-THROW GEARLESS SWITCH STAND-36D

A switch stand for unrestricted use. Extra heavy housing, large bearing surfaces and an oversize crank eye make it impossible to overstress working parts in normal operation. Throw of points can be adjusted without respiking the stand.



RACOR AUTOMATIC SAFETY STAND - 20B

A low target stand especially designed for multiple track locations. Absolutely rigid for hand operation, yet always set for automatic action in the event of a train trailing into a closed switch. Target always indicates true position of the switch points - whether thrown automatically or manually.



RACOR HIGH SPEED MAIN LINE SWITCH

Other types can be furnished to various designs and weights to suit the character of traffic.

1



RAMAPO AJAX DIVISION 230 PARK AVENUE NEW YORK, N.Y.

HILLBURN, NEW YORK NIAGARA FALLS, N. Y. CHICAGO, ILLINOIS EAST ST. LOUIS, ILL.

PUEBLO, COLORADO SUPERIOR, WISCONSIN LOS ANGELES, CAL. SEATTLE, WASHINGTON

NIAGARA FALLS, ONTARIO

"A name worth remembering"

FAIRBANKS-MORSE

Fairbanks-Morse postwar products will serve you with the dependability the world has come to associate with our name. Designing and manufacturing skills will not have to be re-learned in our plants as we turn to civilian production, because as a part of our war job, we've continued to build and improve our peacetime Dicsel engines, generators, motors, pumps, and scales.











BUY MORE WAR BONDS

Fairbanks-Morse Scales are far more than lastingly accurate weighing instruments. They are production tools, too. They speed manufacturing and distribution by counting parts and products, by weighing while materials are moving, by printing weight records, by weighing and disbursing preset amounts automatically, by guarding ingredient proportion secrets, and by performing many other often amazing services.

SCALES

FAIRBANKS, MORSE & CO. CHICAGO 5, ILLINOIS

Diesel Locomotives • Diesel Engines
Scales • Generators • Motors • Pumps
Magnetos • Stokers • Railroad Motor
Cars and Standpipes • Farm Equipment

Stronger Better

For High Speed Service Use the New Schaefer EVER-TITE Wear Plate

In the new Schaefer EVER-TITE wear plate, springs are introduced into the wear plate to save needless wear on the side frame brackets. The entire plate assembly is designed to fit firmly into side frame bracket, eliminating play and resultant wear. Especially recommended for high speed freight service.

Schaefer Appliances

STANDARD ON MOST ROADS

LIGHT WEIGHT DESIGN INSURES MORE THAN CAR LIFE

Schaefer

EQUIPMENT

PITTSBURGH. PA

DROP-FORGED FOR LIGHT WEIGHT, HIGH STRENGTH, LONG LIFE AND SAFETY



a four-syllable way to say EXIDE BATTERIES

ITH passenger traffic at an all-time high, and coaches, Pullmans and locomotives doing extra duty, the dependability of every item of equipment stands out where it can be plainly seen. You can measure this dependability by your maintenance reports, by performance records, by visible evidence.



You see Exide dependability in the brightly lighted cars which glow steadily through the long, winter nights—even during long stops. You see Exide dependability in the smoothly running compressors, in the cranking of giant Diesels, and many other tasks. The high voltage of Exide Batteries is consistently maintained, for Exides are designed to give maximum output under the heaviest demands.

And to Exide dependability, you can add long-life and ease

And to Exide dependability, you can add long-life and ease of maintenance. When you buy an Exide, you Buy to Last.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

NO FOG - NO FILM - NO FROST

MODERN STREAMLINED DESIGN

LIGHTER WEIGHT with GREATER STRENGTE

EASIER QUICKER INSTALLATION

TOP AIR CONDITIONING EFFICIENCY

INCREASED PASSENGER SATISFACTION

DEHYDE TED SASH

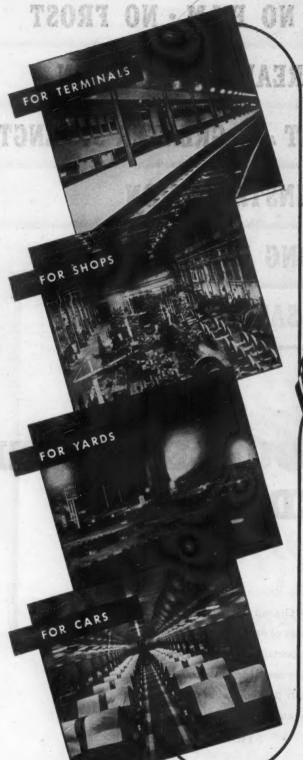
These newly designed Double Glazed Dehydrated Sash Units are a result of Edwards' years of experience in building sash for every type of transportation. They are engineered by Edwards to meet every requirement of modern coach design and to bring to your passengers new standards of travel comfort and convenience.

O. M. EDWARDS CO., INC. . SYRACUSE, N.Y.

EDWARDS SASH

THE EYES OF TRANSPORTATION

SASH FOR EVERY TYPE OF TRANSPORTATION—ON LAND, ON THE SEAS, IN THE AIR



ALL THE LAMPS IT TAKES

TO LIGHT A RAILROAD!



YOU simplify your problems of lamp supply when you follow the practice of leading railroads in getting them together via Graybar. As you well know, railroad lamp requirements are highly specialized. There are specific types of lamps for headlights, trains, rough service, signals, high-bay shop lighting, yards, and terminals.

Graybar offers special stocks at conveniently located offices and warehouses. A corps of men who know railroad lighting needs is ready to serve you.

What's more, Graybar all-inclusive service on lamps is but part of a broad-gaged lighting service, including a full line of fixtures and the aid of lighting specialists in their selection and use.

The chances are that Graybar is already meeting some of your electrical requirements. Save time and trouble by making Graybar your lamp headquarters.

Executive Offices: GRAYBAR BUILDING New York 17, N. Y. GraybaR

IN OVER 80 PRINCIPAL CITIES

every type of transportation—on land, on the seas, in the air



RAILWAY ACE



When luxury-travel returns...

American railroads are rendering outstanding service to the Nation in wartime...they are doing a big job well...faithfully discharging their duty...with war-weary equipment.

When the day of grim necessity has passed...when men and women from the war and home front can relax comfortably in vacation travel ... a whole Nation will want to see the countryside of the America they fought to preserve.

Then... in postwar days... the Nation will look to the railroads for luxurious repose in the gleaming streamliners of a new era.

Then... we shall build Aluminum Chairs, Tables and other items of equipment... built to meet the exacting demands of the most discriminating taste.

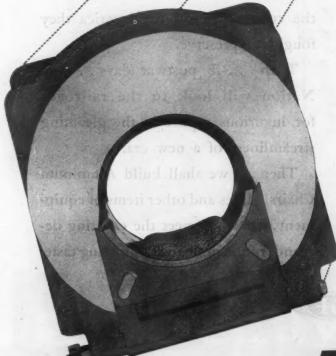


THE GENERAL FIREPROOFING COMPANY . Youngstown 1. Ohio

METAL DESKS . ALUMINUM CHAIRS . METAL FILING CABINETS . STEEL SHELVING . FILING SUPPLIES . SAFES . STORAGE CABINETS

HITE

MAAMMOTH



Magnus Satco-Lined and
Satco-Faced Bearings are
available in all sizes, for all
types of service. Satco Bearing
Metal retains its hardness and
compressive strength at temperatures far above the melting points
of conventional bearing metals.

relac comfortably in vacation



M O D E R N HEAVY DUTY BEARINGS

MAGNUS METAL CORPORATION

Outstanding Like the Sun

CHICAGO • NEW YORK • DENVER

THE P& M.CO.

CLEVELAND • ST. PAUL BOSTON • SAN FRANCISCO

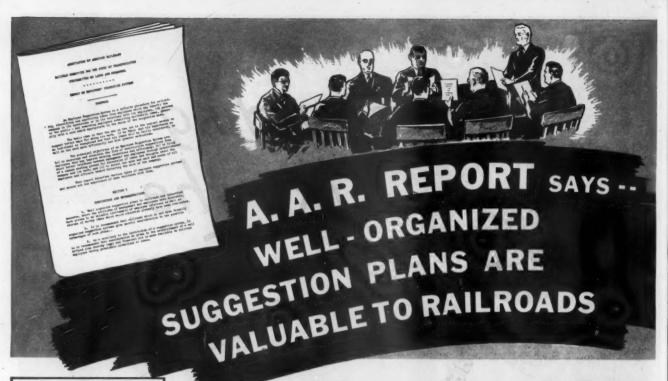
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A READY-TO-GO SYSTEM that WORKS



Prestige-building cabinets like these convince employes that your Morton System really means business.



This material to "sell" and stimulate employes uses proved and tested approaches that work.



Accessory material, instruction booklets, record-keeping forms, etc. are important parts of the complete Morton System.

THE TIME-TESTED MORTON SYSTEM IS READY AND AVAILABLE FOR INSTANT USE!

One important point was strongly emphasized in the A. A. R. report on employe suggestion systems. It concerned the way successful systems were organized and administered.

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The Morton System has operated successfully since 1927. In more than 10,000 installations, it has helped companies of every type and description to cash in on their employes' thinking.

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It costs nothing to get complete details about the Morton Suggestion System and how it can be applied to your own operations. Simply drop us

a line asking for this interesting, eye-opening story.

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Pressure Grouting

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Pressure grouting with portland cement transforms troublesome water pockets and chronic soft spots in railway subgrades into stable, worry-free sections.

Pressure grouting is a standard maintenance operation on many major railroads. It requires no capital expenditure. Work may be done by foreman and small gang of regular track laborers with simple equipment.

Years of experience on mainline tracks of major railroads have demonstrated that pressure grouting effects consistent saving in maintenance costs—saves thousands of man-hours of maintenance labor.

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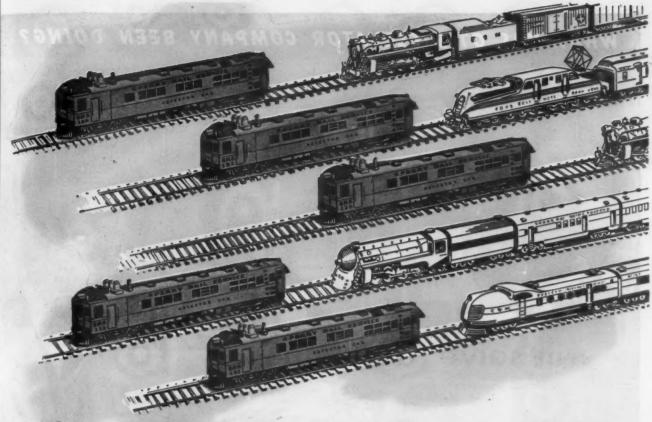
Driving grout injection point on inside of rail with spike-driving air hammer, on Burlington Railroad at Salem, Neb.



Grout injection points installed both inside and outside tracks of Burlington Railroad of Salem, Neb. Note grout hose connection at left front.



Workman feeling line at injection point to tell when grout has cleared so flow may be cut off at angle valve. Note track level board to warn if heaving occurs.



Guarding A Nation's Transportation

URING the war-years over 70% of the nation's internal transportation has been carried by American railroads, staffed by American railroadmen. More trains, more tonnage, more car-loadings, more passengers are moving from point to point than at any time since James Watt first watched his tea-kettle. American Railroads are smashing records and building history.

The searchlight beams of thousands of locomotives shine forward upon track that has been scouted for safety by Sperry Rail Service. The famed 'yellow fleet' of Sperry Detector Cars is the advance guard that assures the following procession of rail traffic of greater safety—for a nation at war.

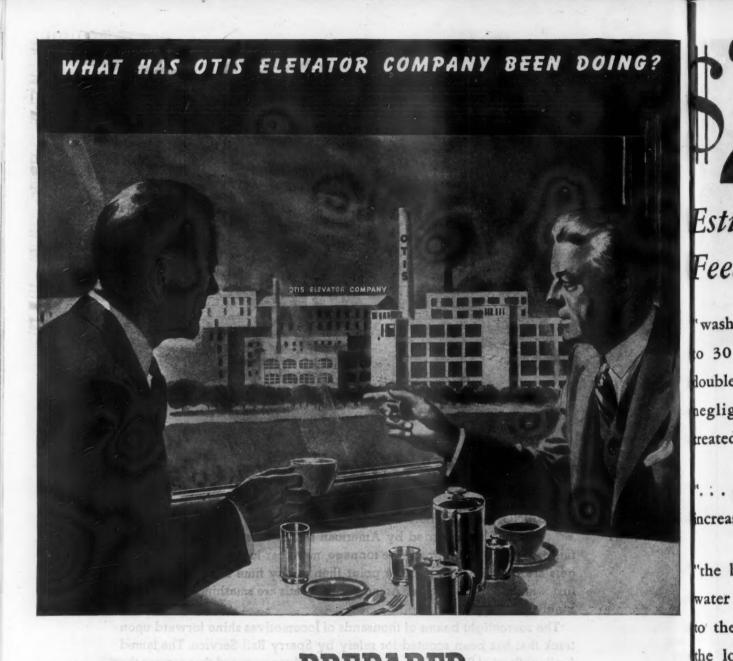
- A Sperry Contribution in Peace and War -



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... and what are they PREPARED to do?

The factories of the Otis Elevator Company have been devoted one hundred per cent to the war effort. That's not unique. That's the pattern of American industry.

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In addition to our large scale production of a great variety of highly precise mechanisms of war for the Army, Navy, and the Air Corps, we have continued to produce elevators. We have manufactured freight as well as passenger elevators for hospitals, ordnance depots, naval warehouses, and other priority installations.

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Although our facilities, organization, and resources have enlisted for the duration and have gone all out for war production as a matter of actual fact we have never been out of the business of manufacturing, in-

stalling, and servicing elevators.

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As our war work is reduced or terminated, this company is prepared — with no change in pace, and without missing a stride — to resume furnishing the highest quality elevators and escalators for all peacetime purposes.



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34

RAILWAY AGE

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'washout periods were extended from 6 to 30 days—time between shoppings doubled and running maintenance became negligible for the locomotive boilers reated."

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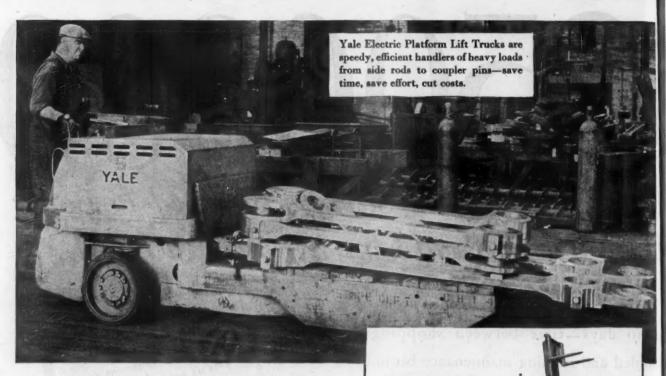




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of all materials.

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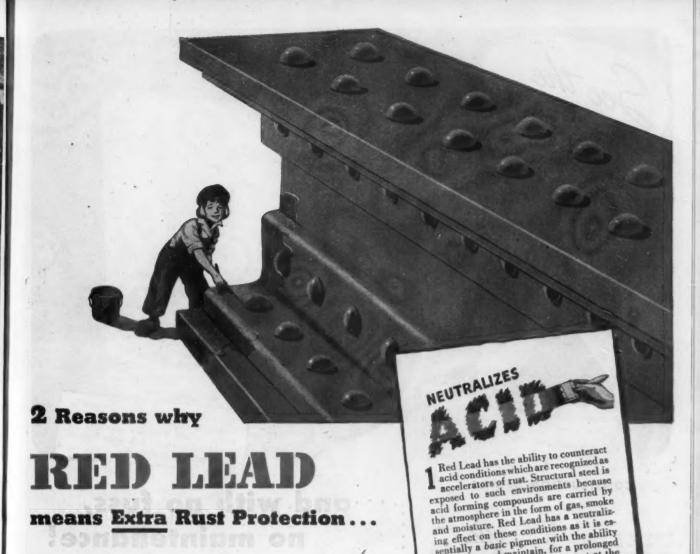
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MOISTS - HAND AND ELECTRIC . TRUCKS - HAND-LIFT AND ELECTRIC . KRON INDUSTRIAL SCALES



Why is Red Lead so widely accepted throughout industry as The metal pro-

tective paint? Why are paints containing Red Lead so generally specified for safeguarding metal surfaces from the costly ravages of rust?

The reasons are many, but none are more noteworthy than Red Lead's ability to counteract acid conditions and to halt electrochemical action-both prime causes of rusting-as explained at right.

Still another important advantage of Red Lead is that it partially combines with the usual vehicles to form compounds generally known as "lead soaps." Due to their composition and the individual way in which these compounds form, the film obtained is highly waterresistant. In addition, lead soaps contribute to the formation of tough, elastic films that "stick on the job."

Remember, too, that Red Lead is compatible with practically all vehicles commonly used in metal protective paints, including phenolic and alkyd resin types.

Specify Red Lead for ALL Metal Paints The value of Red Lead as a rust preventive is most fully realized in a metal paint where it is the only pigment used.

Another outstanding reason Red Lead means extra rust protection is the unique way it shields metal surfaces with a protective film. Rusting is fundamentally an electrochemical process in which weak currents are generated which cause iron to become soluble in the lowest state of oxidation. Red Lead has properties through which this iron is rapidly converted to a stable compound that forms an adherent film. The formation of this protective shield halts electrochemical action, thus preventing further corrosion.

However its rust-resistant properties are so pronounced that it also improves any multiple pigment paint. No matter what price you pay, you'll get a better metal paint if it contains Red Lead.

Write for New Booklet

sentially a basic pigment with the ability to develop and maintain, for a prolonged time, a mild alkaline environment at the surface of the metal. Authoritative tests show that, as a result, Red Lead inhibits the

process of corrosion. In short, metal paints, too, should "stay on the alkaline side."

"Red Lead in Corrosion Resistant Paints" is an up-to-date, authoritative guide for those responsible for specifying and formulating paint for structural iron and steel. It describes in detail the scientific reasons why Red Lead gives superior metal protection. It also includes typical specification formulas. If you haven't received your copy, address nearest branch listed below.

The benefit of our extensive experience with metal paints for both underwater and atmospheric use is available through our technical staff.

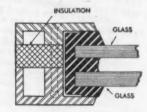
NATIONAL LEAD COMPANY: New York 6, Buffalo 3, Chicago 10, Cincinnati 3, Cleve-land 13, St. Louis 1, San Francisco 16, Bos-ton 6 (National-Beston Lead Ca.); Pitts-burgh 30 (National Lead & Oil Co. of Penna.); Philadelphia 7 (John T. Lewis & Bros. Co.)

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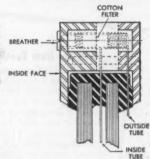


CONSTRUCTION DETAILS

Both frames of Adlake Sash are insulated from each other. This prevents cold from traveling to inside of unit prevents frosting.



Note inside and outside "breather" tubes. These permit air between panes to adjust to changes in temperature and altitude—prevent clouding without use of a dehydrant.



Adlake CURTAINS..., should be included. They never shake, rattle or jangle. Swivel tips prevent change in length; rubber shoes stop noise and creeping. Ask for details about Adlake Curtains... Curtain Fixtures... Sectional Diaphragms... Vestibule Curtains.

and with no fuss, no maintenance!

A beautiful girl... a beautiful scene... and beautiful, clear, unclouded windows. That's the beauty of having Adlake Double-Glazed Sash Units. You can easily SEE their advantages... so can your passengers.

Adlake Windows assure visibility at all times unaffected by fog or frost. An exclusive principle—the Adlake Breather—permits the air between the two panes to adjust quickly to temperature and altitude changes.

Adlake Double-Glazed Windows are again furnished in aluminum and can be aluminited if desired. They are designed and produced for new cars or reconditioning present equipment, and to standards that have won their reputation for superiority throughout years of service.

Write for prices and details ... and specify Adlake.



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ADLAKE RAILWAY CAR EQUIPMENT, FITTINGS and SPECIALTIES . DOUBLE-GLAZED ALUMINUM WINDOWS . WINDOW CURTAINS . VESTIBULE CURTAINS . SECTIONAL DIAPHRAGMS . LUGGAGE RACKS . ASH RECEPTACLES . HARDWARE



Philco is ready, today, with the advanced highcapacity battery performance and long-life economy you'll need in your post-war operations. The complete Philco post-war line includes modern Storage Batteries for all motive power and stationary needs. It will save you dollars in depreciation, up-keep and maintenance costs to specify Philco. Let us send you the latest Philco Battery catalogs of types for your special requirements. PHILCO CORPORATION, Storage Battery Division, Trenton 7, New Jersey.



THE NEW PHILCO "THIRTY"

An outstanding post-war product for industrial trucks is the new Philco "Thirty" Storage Battery that gives 30% longer life and is identified by its distinctive red top. It is now available in certain types and limited quantities.



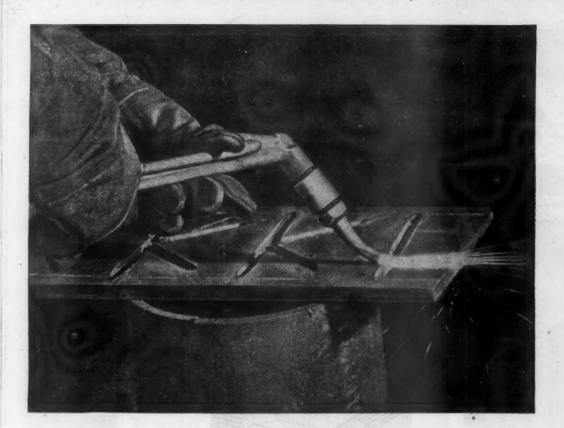
Philco Railroad Car Lighting and Air Conditioning Battery



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For 50 years a leader in industrial Storage battery Development



Shape Steel Surfaces With Oxy-Acetylene Flames

• Oxweld's flame-gouging nozzles provide a quick and accurate way to make a clean groove in steel plate, forgings and castings. The operator above is gouging oil grooves in mild steel plate used for locomotive driving-box shoe and wedge plates.

Surface cuts of various widths and depths are made by using nozzles of different size, by varying the angle the nozzle makes with the steel, and by increasing the number of passes, until the desired depth and width of groove is obtained.

Any Oxweld representative will provide you with more information about this easyto-use metal-shaping method.

Other Uses for Flame-Gouging



- Preparing plate edges for welding.
- 2. Opening up cracks in castings for welded repair.



- 3. Grooving weld joints to receive backing-up weld.
- 4. Modifying forgings and castings.



5. Removing temporary or defective welds.

THE OXWELD RAILROAD SERVICE COMPANY

Unit of Union Carbide and Carbon Corporation

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Carbide and Carbon Building Chicago and New York



SINCE 1912-THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

FOR VICTORY





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Cross-section above shows how modern seats are cushioned for utmost comfort and wear... One molded material—Foamex—replaces all oldstyle upholstery innards.

Your bulkiest passengers won't pound the stuffing out of Foamex.

There's no stuffing in this Firestone-perfected cushioning. Just millions of buoyant, breathing, air-and-latex cells . . . all welded together into one sag-proof material.

But the big news about Foamex is that it won't pound the stuffing out of passengers.

Those air-soft rubber latex cells shape themselves to folks instead of pushing folks out of shape. They can't pack hard under weight and cramp muscles, block circulation. And each of those myriad cells is a little air-valve shock absorber that swallows vibration and bumps.

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Nothing's so soft as air. Nothing's so resilient as latex, foamed to super-buoyancy by Firestone's exclusive process. That's why nothing's so swell to sit on as *Foamex*, the air-cooled Firestone cushioning.

Remember, too, *Foamex* is practically wearproof. Train, plane and bus seats installed years ago are proving that right now.

P.S. The ideal covering for Foamex seats— Velon,* Firestone's wonder fabric. Makes smarter colors practical.

ANOTHER CONTRIBUTION TO A BETTER WAY OF LIFE by



LISTEN TO THE VOICE OF FIRESTONE MONDAY EVENINGS OVER NB

Now BAKER TRUCKS Solve "WHEEL ROLLING"





This new attachment for Baker Fork Trucks has been designed to "mechanize" the job of car wheel handling. A hoe-like clamp, controlled from operator's position, holds wheels securely in transit. Wheels are carried in same position as when stored. Capacity – 1 to 6 wheels.

Besides providing greater safety, this new method of handling car wheels saves time, money, and manpower since wheels are transported faster and up to six at a time. Clamp attachment is readily removed, allowing unit to operate as conventional fork truck. Boom (see box at right) can be attached to same truck for unloading wheels from gondola cars—making this "triple duty" Baker the most useful piece of handling equipment in the wheel storage yard.

Call your nearest Baker representative or write us direct for complete information.

BAKER INDUSTRIAL TRUCK DIVISION of The Baker-Raulang Co.
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Boom Attachment

for Baker Fork Truck speeds loading and unloading of wheels.

By replacing the forks with this simple boom this same Baker Fork Truck can perform the added duty of unloading wheels from gondola cars. Boom is raised by the same hydraulic lift which raises forks. Horizontal arm may be extended as required.



Balveiteindüstrial Trucks

RELIEVE JOURNAL STRESSES

Hyatt Journal Bearing Inner Races with patented Taper Relief Fillet prevent localized stress concentration at the end of the inner race fit on the journal and thus eliminate axle breakage due to this cause.

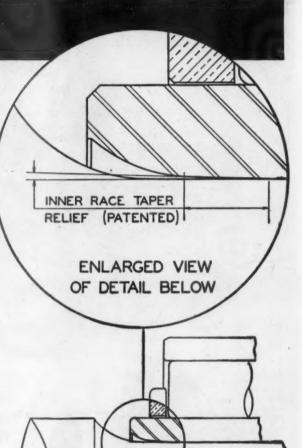


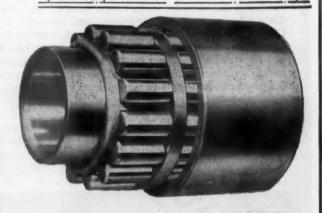
Every railroad man will recognize the value of this feature. Hundreds of millions of miles on Hyatt equipped axles without journal failures have proved it.

In planning new equipment this Hyatt development is worthy of special consideration and emphasis.

SPECIFY

BEARINGS HYATT





HYATT BEARINGS DIVISION . GENERAL MOTORS CORPORATION

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Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered in U. S. Patent Office.

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No. 5

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

GENERAL NEWS.....



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Millions of Dollars in Signal Research for railroads everywhere

For more than sixty years, the Union Switch & Signal Company has been conducting signal research which has benefited railroads throughout the world.

From the Union Switch & Signal Company has come a steady stream of developments contributing to the safety and efficiency of the railroads—electropneumatic and electric interlocking; improved devices for control and operation of switches and signals; continuous train control and cab signaling—the first industrial application of the electronic tube; coded systems of centralized traffic control; the widely-used copper-oxide rectifier; the coded track circuit; electro-pneumatic car retarders; inductive train communication.

These and other contributions to modern railroading involved the expenditure of millions of dollars and years of time in research and development. No single railroad could have brought about the progress in signaling achieved by the Union Switch & Signal Company working with many roads and enjoying their full cooperation. The benefits of this program are available to all roads.

UNION SWITCH & SIGNAL COMPANY

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The Week at a Glance

WEATHER: The conditions of freight congestion in the Eastern territory under embargo in the last days of January are surveyed in reports from principal individual railroads in the area, brought together in an article herein on page 266. The mischief appears to have had its principal origin in six weeks' persistently severe weather conditions in the area centering on Buffalo. These conditions are briefly and vividly related by William White, president of the Lackawanna, on page 268. Our article includes also a report from Washington, where O. D. T., I. C. C., and A. A. R. officers reveal grave concern. Traffic movement is being greatly improved, but some more Axis weather would compound a cumulative problem of serious dimensions. Even now, consignees do not generally know how hard they have been hit-but they will begin to find out in the next week when supplies they expect on A day do not arrive until G day or later.

NOT FOREARMED: The nation's political administration of the war program has, all along, depended upon "living off the country" for its domestic transportation needs. The railroads up till now have done so well—aided by unusually friendly weather, by the resourcefulness of the managements and the devotion to duty of the bulk of the employees, by the intelligent cooperation of shippers and by the heavy investments of private capital the carriers were able to make in the '20's-that the administration has come to think that it will get all the transportation it can use without any forethought at all. Instead of allocating the railroads the materials and the man-power needed to prepare themselves for the worst that might reasonably be expected, the administration has treated the carriers as "civilian industry" in its calls for men and materials; and, as if that were not enough, government officials (such as Thurman Arnold, Francis Biddle, Wendell Berge and Henry Wallace) have been put on the stump to vilify them. The leading editorial herein suggests that, if the authorities would assure continuance of adequate transportation, they might be well advised to adopt some of the means necessary to that end.

MORAL DEBACLE: Defiance of the simple rules of traditional morality-and not just violation of more recondite economic principles—is sufficient to explain the conflict and misery in the world today, including that in transportation. Such is the argument of an editorial in this issue, which contends that a pressure group which descends on Washington and comes away with special favors at the expense of the whole people is not much different, morally, from a band of road agents holding up a stage coach. Indeed, morally, the road agents may be on a somewhat higher plane, as possessing courage which the pressure groups lack-as evidenced by their using the machinery of the government to carry out their depredations. The pressure groups flaunt economic principles, to be sure, but maybe they can plead ignorance as a defense for that infraction.

They cannot similarly plead ignorance of what the Decalog has to say about taking away a neighbor's property by coercive means. The editorial observes, further that the "common man" is not getting an especially impressive example of moral behavior from our national leaders, either in government or business. Those who object to war, poverty, and strife should be sufficiently realistic to operate on causes, and not content themselves with merely denouncing the effects.

A BETTER STEAM LOCO: The joint effort of coal operators and a number of coal-carrying railroads to develop a more satisfactory coal-burning locomotive is praised and appraised editorially in this issue. The major handicaps that the steam locomotive confronts in holding its pace with the Diesel are candidly examined, to determine the lines of improvement most likely to improve the serviceability of the steam locomotive to modern railroad needs. One conclusion advanced is that the adoption of pulverized fuel offers attractive prospects of overcoming some of the most persistent and pervasive arguments now put forward to the steam locomotive's competitive disadvantage.

CONNORS LEAVES O. D. T.: E. J. Connors, operating vice-president of the Union Pacific who has been serving as director of the railway department of the O. D. T., has returned to the U. P. and has been succeeded at the O. D. T. by J. H. Aydelott, general manager of the Burlington's eastern lines. Several other O. D. T. changes are listed in our news pages.

LOCO. THERMAL EFFICIENCY: Two "principles" basic to further improvement in the steam locomotive are given as (1) getting a higher ratio of total locomotive weight onto the drivers, with a wheel arrangement favoring high speed; (2) increased thermal efficiency in both the production and the use of steam. Such are the conclusions advanced by R. M. Osterman in an article on page 263, in which he indicates further that attainment of the highest thermal efficiency probably will require a turbine, the difficulties of which he examines. Some of the possibilities of greater standardization in the steam locomotive are also weighed by the author, who believes that a power unit can be developed with less weight per drawbarhp. than possible either to the conventional steam locomotive or the Diesel-electric.

TRAIN RADIO: The proposed allocations of wave bands by the Federal Communications Commission to the railroads for train communication radio are judged (in an editorial in this issue) to afford the roads "broad opportunity" to apply both carrier systems and "space radio" to the successful achievement of this helpful objective. It is suggested further that additional technical studies be expedited, in order to make certain that the system or systems adopted are actually the best that the state of the art affords.

SHORT-HAULING OKAYED: The I. C. C. was not wrong, as some railroads contended, in insisting that the 1940 Transportation Act may require a railroad to short-haul itself where necessary to advance the interests of shippers. This is the Supreme Court's decision reviewed in the news pages in this issue, in a case in which a railroad contended that a grain processor at Hagerstown, Md., must use its line, even though not direct, for the entire haul in order to enjoy a through rate with transitmilling privileges. To use this carrier's line into Hagerstown, the shipper would have to pay a supplemental charge for an outof-line haul, and to this requirement the shipper objected; the Supreme Court sustains him.

HIGHER PER DIEM WINS: Effective February 1, the per diem payment to owning lines for freight cars on other railroads will be \$1.15 instead of the historic \$1. The increase had been suspended for a month to permit inquiry into the legality of the increase under O. P. A. restrictions, which, it has been decided, do not apply. Still pending with the I. C. C. is a protest by the Short Line Association against higher per diem, this organization insisting the rate should, instead, be reduced.

FRAGMENTIZED TRANSPORT: The principal reason, probably, why the transportation situation—especially the relations between the several agencies—is so chaotic is that there are so many separate Congressional committees having to do with transportation, each of them concerned with only a part, and nobody responsible for the welfare of the function as a whole. Now a bill has been introduced in the House to establish a separate committee on aviation—further fragmentizing governmental treatment of transportation.

MORE "SOCIAL SECURITY": Hearings on the railway unions' bill for "liberalizing" of the Railroad Retirement Act and the Railroad Unemployment Insurance Act were begun this week by the House interstate commerce committee and are reported in our news pages. The B. of R. T. is not a party to this program, which involves greatly increased unemployment payments and a widening of eligibility for pensions with no concern indicated on the part of proponents as to the competitive position of the industry which is asked to submit to much heavier 'social security" obligations than are other industries. There was a time in this country when fame and acclaim went to those most skillful in ways of creating wealth-now main honors seem to go to those most assiduous in getting rid of it.

WATER TREATING PAYS: The New York Central's experience with water treatment—begun 20 years ago and intensified gradually thereafter—is outlined in a paper in this issue by Water Service Engineer Hislop. He estimates that the Central is saving at least \$2½ millions annually by this activity.

IT'S A GREAT NEW DAY FOR RAILROADING



FIRST

IN THERMAL EFFICIENCY

which simply means that a General Motors
Diesel locomotive (passenger, freight
or switcher) has greater inherent ability
to convert fuel into useful work.

Greater than what? Well, greater than any type of heavy mobile power unit with which you may now be familiar—often 50% greater.

This is mighty interesting to railroad officials who keep one eye on results and the other on costs.

ON TO FINAL VICTORY BUY MORE WAR BONDS G LOCO OTIVES

REPART MOTORS COMPORATION - PORT MINOR

RAILWAY AGE

When Winter Came

The editorial entitled "If Winter Comes" published in Railway Age of August 29, 1942, has proved highly prophetic more than two years later. It showed that the government, by its wholesale abuse of freight priorities, made unavoidable the congestion of freight that developed in eastern territory late in 1917 when the railways were handling a traffic augmented by war and the weather became extremely bad. And it gave warning that the government, by persisting in its policy of restricting the acquisition by the railways of needed materials and new equipment, was inviting similar trouble in World War II in cases of severe winter weather.

Fortunately, the winters of 1942-1943 and 1943-1944 were too mild to interfere much with transportation. Unfortunately, the winter of 1944-1945, especially in the area east and south of the Great Lakes, has been exceptionally severe. Hence, delays and congestions of freight recently necessitated embargoing the consignment of all except war freight to, through or within the territory east of the western line of Indiana and north of the Ohio river and the Chesapeake & Ohio from Huntington, W. Va., to Potomac Yards, Va.

While, for the first time during World War II, a severe congestion of traffic has occurred, the developments preceding it, its importance and the means available for remedying it, cause it to present a marked contrast to the congestion in the war winter of 1917-1918. There had been no such restrictions on the acquisition of materials and equipment then as have been applied now for more than three years; and the railroads had more equipment than now. But, principally because of the large investment made in the decade ending with 1930, equipment is better, and enlargements and improvement of yards, tracks, signaling and other fixed facilities make possible much more efficient utilization of equipment, than in the last war.

The railways joined early in 1917 in giving the Railroads War Board authority to operate all lines as a "single continental system"; but their Car Service Division had not had the authority and experience in distributing cars that it has now had for years. The Interstate Commerce Commission had not been empowered, as it is now, to legalize by service orders action required to prevent or relieve congestions. There was entire lack of the cooperation by shippers and government agencies that has been given during the present war; and under government priority orders thousands of cars were routed to eastern seaboard ports to be unloaded in ships that were not available. Hence, when in 1917 freight traffic (Class I railways) increased to 395 billion ton-miles, shortages of 15,000 to 156,000 cars were reported in every month; and when extremely bad weather came there developed a severe congestion of traffic almost throughout eastern territory which was not relieved until the spring of 1918, although the traffic handled in 1918 was but 3 per cent greater than in 1917.

In contrast, a freight traffic of 638 billion ton-miles in 1942, of 727 billion in 1943 and of 740 billion in 1944 was handled with no shortages of cars until the middle of 1943. Although shortages have been reported ever since then, no total shortage exceeding 8,000 cars had been reported up to the week ending January 6, 1945; and the recent congestion in eastern territory has been the only serious one that has developed.

The railways' achievement in handling 83.5 per cent more tonmiles of traffic in the two war years 1943 and 1944 than in the two war years 1917 and 1918 without any of the prolonged shortages and con-

Efficiency ICTORY

gestions of cars that characterized the World War I period under both private and government operation can hardly be said to be marred by the troubles they have been caused by the present severe winter. But these troubles are a warning to government authorities controlling the provision of equipment, materials and man-power that adequate transportation for war purposes is indispensable to adequate production for war purposes, and that they imperil both adequate transportation and adequate production when they show lack of concern about the needs of the railways.

Radio for Railroad Service

The Federal Communications Commission's report on proposed radio channel allocations for non-governmental services is the result of a thorough and competent study, and the channels suggested for train communication and other railroad applications afford the railroads broad opportunity to avail themselves of the advantages obtainable by such means of communication. The study covered the radio spectrum from 10 kilocycles to 30,000,000 kilocycles (30,000 megacycles) and embraced all non-governmental applications of radio. It is proposed that the railroads be allotted 33 clear channels in the 156-162 megacycle range for end-to-end communication. It is suggested also that the railroads be allowed joint use of other channels where location and type of application make such use satisfactory. This would include a few channels below 3 megacycles (mostly for ship-to-shore service) and television channels 44-50, 54-78 and 192-216 megacycles for yard and terminal service. The railroad portion of the report was summarized in the Railway Age of January 20, page 191.

These proposals will, if approved, give the railroads wide latitude to use space radio as well as carrier systems, and the Commission urges that installations be made as soon as practicable so that further knowledge of the suitability of the allocations may be determined.

The present advancement of the art and the war situation leave one question unanswered. No allot-ments were made in the 2,600-2,700 megacycle range requested by the railroads, since there is little knowledge of the performance of radio in these frequencies and apparatus for extended applications will not be available until after the war. Experiments have been made in these higher frequency ranges which indicate they may have advantages for train communication over the frequencies in the 156-162 range. It is to be hoped that further experiments will be encouraged, so that the potentialities of the higher frequencies may be determined before wide usage fixes railroad applications at the lower range.

The Commission is completely cooperative and evidently intends to do its part to make possible the most effective use of radio in the public interest. Fortunately, the number of available channels increases with increases in frequency. If further technical studies can be made without delay, further confusion and perhaps extensive development on a basis falling short of the best, may be avoided.

Moral Impediments to Peace and Prosperity

It is customary and in accord with facts to explain in terms of disobedience to economic principles the chaos which afflicts the transportation industry, the conflict between "labor" and "capital," political controversy, and class and international warfare. This chaos can also be accounted for in terms of violation of the moral code—in the world-wide prevalence of sloth, greed, lying, cheating, dissembling, stealing, and murder, by all sorts and conditions of men. Moral rules are simply the principles of restraint which experience and human nature require people to accept if they would live together in peace and prosperity.

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Such talk about morals is unpopular, savoring of the pulpit, but facts don't vanish because they are unpalatable. Explanation of political evils in terms of moral infraction has, however, an advantage over their interpretation in terms of economics, in that no great intellectual effort is needed to understand violations of the moral code. Nobody needs much intellectual preparation to comprehend his disobedience of the moral law—and hence his personal contribution to worldwide violence and bloodshed. The difficulty is that consciences of multitudes of "little fellows" are not likely to become sufficiently uneasy to lead them to wish to mend their ways so long as they witness their puny retail misdeeds reproduced on a grand scale by those to whom they look as leaders.

When representatives of business go to Congress and lobby through a protective tariff for their own benefit, they are not only violating sound economic principles, but, morally, are exploiting others by their use of the force of the state, which, morally, can be exerted only for the general welfare. The legality of their action does not whitewash its moral quality. When another lobby of industrialists secures a large appropriation for highways, waterways or electric power-to be paid from general taxes rather than from compensatory levies on immediate beneficiaries—they too are, morally speaking, exploiters. When they pretend that they are motivated by concern for the public interest rather than by private greed, they merely add hypocrisy to their exploitation of the public. Much of the complaint against labor leaders who have succeeded in enlisting the state's coercive power to deprive business of some of its profits, comes from business leaders who have themselves similarly violated economic and moral precepts; hence their homilies favoring spotless economic and moral behavior by labor leaders are greeted with indifference or contempt.

This nation was led into war in opposition to treachery, robbery and murder in international relations, on the promise of the so-called "Atlantic Charter," in which it was proclaimed that the Allied nations would seek no territorial gains, and put no people under a government to which these people objected. A White House press release at the time announced that the document had been signed by President Roosevelt and Prime Minister Churchill. Now it is denied that the document was ever signed, or that it was intended as

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anything more than a remote objective—not meant as a binding obligation.

If we are not fighting against the rule of murder, robbery and brutal treachery in international relations, then it is timely to inquire for what alternative objective we are fighting. The point is that the simple copybook moral maxims are being violated from the very top right down to the bottom in both our foreign and domestic relations. There is no more cause for wonder at the result than because a stone, thrown into the air, falls to earth again. The only course for rational men is to go to work on the causes. And the individual does not have to wait for prior action by his national leaders for that. If he is sufficiently concerned to contemplate his own behavior, he will find it easier to detect and unseat the malefactors who practice their misdeeds on a national or global scale. It still remains the more effective course to operate on the beam in one's own eye as practice for plucking the mote from one's neighbor's.

More Motor Coaches

The scope and type of highway competition which the railways will have to face after the war is gradually taking shape. As to motor coaches, the situation is not entirely competitive. Through its president, Arthur M. Hill, the National Association of Motor Bus Operators has recently announced that 6,000 intercity buses, representing an investment of \$90,000,000, will be purchased by bus lines as soon as war-time priorities permit their manufacture. Many of these will be of the so-called de luxe type which cost about \$15,000 each.

The normal peace-time needs of the country's inter-

city bus lines averaged about 2,000 vehicles a year. There have been some buses produced during the war years, but their number has been much less than the replacements needed.

Further, the buses produced in war-time have been rather spartan in their design and appointments, and not of the type having what optimistic bus operators term "the luxury and comfort of the buses of the future." Actually, what is contemplated is the virtually complete replacement of their fleets by most of the country's intercity bus lines.

In connection with these purchases, it should be noted that much of the money spent will be railway money. The two titans of the bus industry, the Greyhound Lines and the National Trailways, were railway-inspired in their inception, and the railways, through their bus subsidiaries, still have large interests in these two bus-operating organizations. The railways also own and operate many independent bus subsidiaries, which are represented proportionately in the total figures for equipment purchases given above.

If they are permitted to do so, all indications are that the railways will become overall transportation companies to a much greater extent than they were before the war. There are those who feign to view such a development with alarm as tending to stifle competition, but the history of the growth of the Greyhound Lines and the National Trailways shows their pretended fears are not justifiable.

Assuming that the railways may legally continue and expand their bus operations, a wide field is open to them. There is a fertile field for the railways in the use of buses for feeder service where unprofitable branch or local train service has been or may be abandoned and elsewhere. The post-war expanded travel market will afford unprecedented opportunities

for bus lines serving the national parks and other places of scenic interest; all such lines even though not railway-owned, will be dependent upon passengers brought to them by the railways.

The possibilities of trainconnection buses in metropolitan centers have not been fully explored, but undoubtedly will be after the war.

In peace-time, one such operation on one coast was only moderately successful, while another on the opposite coast was outstandingly efficient and revenue-producing.

The outlook for enhanced use of buses by the rail-ways after the war is bright, but such enhanced use presupposes, of course, the purchase by the railways and their subsidiaries of many new buses.



"George says carloadings are running very heavy—and they certainly are on this train."

A Logical Step in Self Protection

The research project to improve the coal-burning steam locomotive, announced by six bituminous coal-originating railroads and three large bituminous coal-producing companies on page 211 of the Railway Age of January 20, is a logical step both from the stand-point of the railways and of the bituminous coal-mining companies which are participating. Indeed, the stake which the bituminous coal mines have in the railways raises the question as to why some such project has not been undertaken long before this.

In 1943 the bituminous coal mines delivered 394 million tons of coal to the Class I railways for the movement of which the railways received 9061/2 million dollars. This represented 26.6 per cent of the total revenue tons originated and 12.7 per cent of the total freight revenues. The six railroads participating in the new joint project are the Baltimore & Ohio, the Chesapeake & Ohio, the Louisville & Nashville, the New York Central, the Norfolk & Western, and the Pennsylvania. In 1943 they originated 61.8 per cent of the total bituminous tonnage originated by the Class I railroads and the bituminous coal carried was 43.6 per cent of the total revenue tonnage moved by these railroads, from which they received 26.4 per cent of their total freight revenues. From the mining side of the picture the Class I railroads bought for consumption on steam locomotives 1221/2 million tons out of the total original movement of 394 million tons-a market certainly worth fighting for.

In comparison with the Diesel-electric locomotive for road service, the steam locomotive has at least four handicaps. These are (1) the greater frequency of stops for coal and water; (2) the time required for fire cleaning and ash-pan dumping; (3) the smoke and cinder nuisance; and (4) boiler maintenance.

The employment of large capacity tenders and of auxiliary water cars has greatly reduced the handicap of service stops as an interference with the continuity of train movement. The provision of main-line coaling stations and water cranes is also contributing to the reduction of this interference.

It has been demonstrated on numerous occasions that fires can be maintained almost indefinitely with some fuels, but as long as coal is burned on grates the ash pan must be dumped. Dumping can be done when coal and water are taken without adding further delay. It could be eliminated by the use of pulyerized coal.

The smoke nuisance can be brought fairly well under control but never quite eliminated as long as coal is burned on grates. Many municipalities have been able to overcome the worst objections to this feature of steam locomotive operation. Outside of these areas of special supervision and control, however, the steam locomotive continues to emit smoke and cinders. Here, again, pulverized coal offers the most probable solution.

To the locomotive boiler must be attributed a considerable part of the expense and out-of-service time required for maintaining the steam locomotive. Before the advent of water treatment, the rating of the locomotive boiler for reliability was extremely low. With

the advent of water treatment in bad-water districts, the situation was greatly improved. This, accompanied by the seal welding of tubes in the back tube sheet and the joining of inside firebox sheets by welding, effected a revolution in locomotive maintenance. Whereas, formerly, the boiler was the source of the greater portion of the labor and expense of keeping up the locomotives, machinery repairs took the lead. Then came the improvements in running gear effected in the main by the application of roller bearings to all locomotive journal boxes, and the relative position of the boiler as a source of necessary maintenance has again approached its former lead. Further improvement in this respect may be expected from two sources: (1) a more general adoption of complete, rather than partial, treatment of boiler feedwater, and (2) the all-welded boiler toward which progress will probably be rapid as soon as wartime restrictions have been cleared away.

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From the coal standpoint, pulverized fuel offers the best prospect for effective removal of some of the worst of the present steam locomotive handicaps. The difficulty here, however, would seem to be threefold. First is the problem of successfully burning a wide range of coals in fireboxes of restricted volume. Second, pulverized coal is a processed fuel and, therefore, an expensive fuel. The problem is to effect a sufficient improvement in combustion to offset the high price by high efficiency. Then comes the question of locomotive first cost. The outstanding advantage of the steam locomotive for road service is its low first cost in comparison with other forms of motive power. Changes in the steam locomotive to effect the removal of present handicaps, which at best will not be complete, will destroy their own competitive value if in the end they result in a substantial increase in the first cost of the locomotive.

The problem is a challenging one. Its solution, or even a reasonable step in the direction of a solution, will be well worth the million or more dollars reported to be available for the joint project of the two groups.

A Foretaste of Federal Ownership

The granting of priorities for dogs on planes and the holding of trains for hours just to accommodate some member of the President's family, and many other such cases as don't get into print because of lesser lights involved, gives a fair idea of what government ownership and operation of transportation systems could mean in this country, where special privileges so closely follow the voting.

Trains and planes would be treated as the private property of officialdom surely, because even now Army officers and railroad executives are afraid to tell the public the source of their orders. The likelihood of ultimate government control of the railroads would be much less were the privately owned railroad officials a little less old-womanish.

Government ownership of the railroads would cost the taxpayers millions upon millions in operating deficits to be made good, in loss of taxes collected by the federal government and the states, and in all-round poor service. Government operation during the first world war gave us a fair idea of what to expect. Yet the railroads and the airplanes would be nice toys for our rulers, the bureaucrats, to play with.

-Carlton A. Shively in the New York Sun.

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How Much Can the Locomotive Haul?

How the potential hauling capacities of reciprocating steam locomotives meet specific traction requirements

WITHIN the last 35 years considerable progress was made in an attempt to reduce the number of steam locomotive designs and types that would satisfy the road service requirements of American railroads, and much interest in further design standardization continues. The design developments which have taken place within these years indicate that designers, as well as operators, became more and more aware of the importance of maximum sustained horsepower output, whereas theretofore they had been mainly concerned with maximum tractive force. The introduction of boilers with enlarged and trailertruck-supported fireboxes, of feedwaterheating devices and other means for obtaining large steam generation capacity with highest possible efficiency, the adoption of steam superheating, of higher boiler pressures and of improved valve gear for the purpose of decreasing the specific steam consumption of the locomotive cylinders, are all characteristics of that period. The marked change of trend in the design of steam locomotives was, of course, forced by the necessity to move ever heavier trains at ever higher speeds as the development of the country progressed.

The drawbar horsepower output required of a locomotive, at any speed thereof, and when loaded with a train of a given tonnage, or the product of drawbar pull and train speed, varies as shown in Fig. 1. The groups of curves in that diagram denote both the drawbar horsepower requirement and the drawbar pull needed when a locomotive hauls a train which, including itself, weighs 1,000 tons on straight level track, over various grades at various train speeds. These curves were calculated with the use of published test data which pertain to rolling friction and wind resistance; they also include a tractive force reserve sufficient to accelerate the train at the rate of 10 m.p.h. per min. on straight level track.

The drawbar horsepower output, however, which is actually sustainable by a conventional steam locomotive, at any speed, is equal to the boiler's hourly evaporative capacity divided by the pounds of steam consumed by the cylinders per horsepower hour. This specific steam consumption is, with given cylinder and driving-wheel dimensions and with a given pressure and temperature of the admitted steam, variable at will by cutoff control, i.e., by varying the amount of steam which is admitted to the cylinders per piston stroke. By such cutoff variation the steam generation and steam consumption can be balanced at will at all locomotive speeds, and by it the well-known drawbar pull and By R. M. OSTERMANN

Vice-President The Superheater Company, Chicago

drawbar horsepower characteristics of Fig. 2 are produced. When one superimposes the horsepower characteristic of a given locomotive upon the group of curves which indicate the drawbar horsepower requirements of a given weight of train on various grades and at various speeds, as in Fig. 3, one is able to establish an approximate time table or calculate the schedule speed for that same weight of train when operated over a railroad of a certain profile.

Fuel and Water Quality

In Fig. 2 various drawbar pull and horsepower characteristics of steam locomotives having the same maximum drawbar pull are set side by side, i.e., of locomotives which carry the same weight on drivers and are equipped with the same sizes of cylinders and driving wheels. In spite of complete interchangeability of the propulsion machinery, there may be a considerable difference in the performance of these locomotives, due to differences in the evaporative capacity of their boilers. Different kinds and proportions of coal require different amounts of draft, and even if a standardized front end operated with the same draft-producing efficiency, marked differences in the back pressure, and therewith in the specific steam consumption of the engine cylinders, cannot be avoided.

Also the grate areas and combustion volumes required for the most efficient combustion of different locomotive fuels

vary so much that the particular kind of fuel employed by a railroad will always have to be taken into consideration in the dimensioning fireboxes of its locomotives, no matter how closely their design may be intended to follow a general standard in other details: otherwise substantial differences in the maximum horsepower develonment of that railroad's locomotives, compared with the one of locomotives of the same weight on drivers and being

operated by some other railroads with different fuel, could not be avoided. This makes it obvious that the total weight and the overall dimensions of boilers cannot be standardized for an otherwise standardized design without penalizing some railroads as to the cost and weight of their locomotives as a whole. It is not impossible that future improvements in locomotive coal-burning practice, for instance by the perfection of the art of burning pulverized coal, will lessen this obstacle to complete boiler standardiza-

Incidentally, we should be reminded that not only the kind and quality of the fuel but also the quality of the feedwater is apt to affect the steam output of a given locomotive boiler. Though water softening has become standard practice, and though scale formation is thereby either entirely prevented or considerably reduced, thus making a standardization of flue and tube spacings practical enough, still the softening process in-troduces other difficulties. It produces a greater concentration of dissolved solids in some waters than it does in others;' also variations in the demand made upon an existing water softening plant, due to variations in business, frequently cause the chemical reaction to remain uncompleted in the softener and to be only finished in the boilers, with the result that the locomotives have to steam with various amounts of sludge in them. These circumstances often cause a varying degree of foaming and priming difficulties, a varying amount of water carryover into the superheater, a variation of the superheat and of the specific steam consumption of the locomotive, and therewith a varying degree of departure from a standard locomotive performance. Fortunately, in late years, a

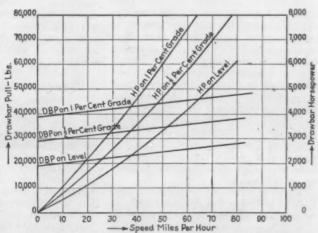


Fig. 1-Drawbar Pull and Horsepower Required Under Various Grade and Speed Conditions with a 1,000-Ton Train

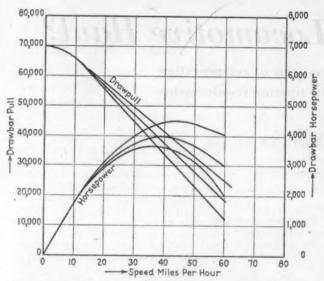


Fig. 2—Drawbar Pull and Horsepower Characteristics of Three Locomotives Having the Same Maximum Drawbar Pull

large amount of effort has been directed towards the elimination of these carryover difficulties, by chemical as well as by mechanical separating and blowoff means, and the prospect of eliminating these troubles altogether is very promising.

Assuming that the current thoughts on practical limits of boiler pressures and temperatures, as well as on practical limits of driving-axle loads, were shared by all railroads, no serious differences need enter into the design of the machinery of the locomotive of a given weight on drivers and of a given tractive force. In former days, when the operating value of a locomotive was largely thought to reside in the drawbar pull which it could develop in starting and at drag speeds, when axle loads were more limited, and when grades were more severe, the trend towards varying the diameter of the driving wheels and the number of driving axles, in order to obtain locomotives best adapted to various profiles, justified the creation of quite a number of different locomotive wheel arrangements; a far reaching standardization could then not be thought of even as a remote possibility.

In these days of more advanced railroading, however, the urge to vary the cylinder dimensions and the diameter of the drivers of a locomotive of a given maximum tractive force has lessened, for it is now realized that the all important horsepower characteristic is mainly determined by the boiler and superheater proportions in relation to the piston displacement and cutoff of a locomotive. The increasing adoption of general service locomotives with compromise wheel diameters for moving both freight and passenger trains by railroads operating over various profiles, confirms the foregoing statement.

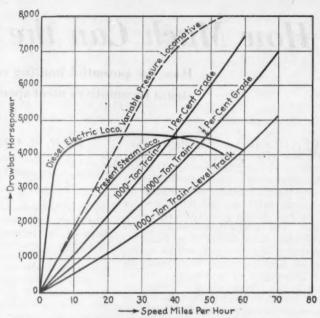
Varying train-load requirements and speeds plus varying profiles will, of course, always necessitate the construction of locomotives which can maintain varying maximum horsepower developments, i.e., varying tractive force at ad-

vanced speed. The drawbar-pull curves of Fig. 2, which allow one to conclude

how sparingly the steam must be used per piston stroke, lest it be not possible to maintain the boiler pressure, and how much the drawbar pull has to be reduced with increasing speeds, should be noted. The general slope of these drawbar-pull curves in Fig. 2 is fairly similar for all well balanced locomotive designs and, generally speaking, typical of conventional reciprocating locomotives working with a constant boiler pressure. The practice of deliberately over-boilering a locomotive, or of unduly forcing the combustion in a firebox, and of then utilizing the increased steam generation capacity by lengthening the cutoff, of course, represents an easy means of decreasing the slope of the drawbar-pull curve and of boosting the maximum horsepower development as well as the speed at which the latter is obtained; but since the steam and fuel consumption per drawbar horsepower-hour rapidly increases with the lengthening of the working cutoff beyond the one which is demanded by a so-called balanced operation, it is obvious that such practice for increasing the power and drawbar pull at speed is wasteful of fuel and water, and that it logically leads to larger tenders and increased dead weights.

Reduced Weight Would Help

All of the thought which has been, in the past, directed towards standardization of locomotives has no doubt had the aim of decreasing the building costs as well as the operating cost of railroad motive power; if so, it is obvious that an appreciable reduction of the total weight of a locomotive for each drawbar horsepower of its output would be most helpful and might well be given careful thought by locomotive designers when they deliberate on questions of standardization. From what has been



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Fig. 3—Horsepower Characteristics of Three Types of Locomotives Superimposed on a Group of Curves Indicating the Power Required for a 1,000-Ton Train Under Various Grade and Speed Conditions

stated heretofore, and by reference to Figs. 2 and 3, it will be clear that the more the drawbar-pull-speed characteristic of a locomotive of a given weight on drivers can be made to approach a horizontal, the more one can also approach a horsepower-speed characteristic similar to the one shown in dotted lines in Fig. 3, and it is evident that a locomotive of such a characteristic would satisfy abnormal operating requirements, such as might result from widely varying grades or from widely fluctuating train weights and train speeds, far better than the present conventional steam locomotive and hence tend to reduce the required number of sizes of locomotives.

Incidentally it may be stated that such lighter and more powerful locomotives would also be greatly superior in performance to present Diesel-electric locomotives, because the latter, though they carry a relatively large weight on drivers, have such a strong sloping tractive-force-speed curve that the resulting horsepower-speed characteristic is, at the highest operating speeds when largest possible power output is required, even less favorable than the one of the conventional steam locomotive. A typical horsepower speed characteristic of a Diesel-electric locomotive having about the same maximum power development as the conventional steam locomotive was added in Fig. 3 in order to illustrate that fact.

The possibilities of obtaining more power for a given weight of steam locomotive are by no means exhausted, and it is quite certain that much progress could be made with the use of steam for railroad motive power if one ventured into a radically new design and broke with long-established traditions. In the writer's opinion, the two following basic principles would have to govern a more advanced steam locomotive design than

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we now have, in order to achieve a practical success.

. (1) To carry a far larger percentage of the total weight on drivers than we now do in the present conventional steam locomotive and to find a wheel arrangement which would lend itself to operation at the highest speeds.

(2) To adopt a type of power plant which is capable of producing and of using the steam with the highest thermal efficiency that it is possible to attain.

Principle No. 1 has one precedent in its application to present articulated types of steam locomotives, and has been most completely incorporated in the design of a Diesel-electric freight locomotive which carries 100 per cent of its weight on drivers.

Difficulties

Principle No. 2 will require much study and circumspection when applying it to locomotives. A substantial increase of boiler pressure would mean the use of water-tube boilers, and it is also likely to require that condensate of steam be made available for 100 per cent of the boiler feed. Air-cooled condensers which are small and light enough for a locomotive would most certainly require condensation at a pressure above the atmospheric. They could not be relied upon to produce a substantial vacuum in winter and summer, as in stationary power plants or on ships, where ample amounts of cooling water are available for condensation. In order, then, to compensate the locomotive for the loss of the potential heat drop available to the working steam of a stationary power plant or ship, the boiler pressure as well as the steam temperature will have to be greatly increased, probably to the highest values which are now successfully used in stationary power plants. For obtaining an ample enough heat storage, so necessary in locomotive operation, and without making the weight high-pressure water-tube boiler prohibitive, one may have to resort. furthermore, to the use of a two-pressure steam generation system and combine it with compounded propulsion means, of which at least the high-pressure part would have to be a steam tursince a piston engine could not possibly handle steam of such high temperatures and pressures as would be required,

One Argument to Contrary

Since condensing operation would be essential, an absolutely oil-free exhaust steam, and therewith the disregard of engines which require lubrication, would be indicated. Steam turbines are, of course, most suitable for this reason also. There is, as the writer sees it, only one serious argument against the use of steam turbines for the direct driving of a general service locomotive such as the railroads ought to consider in the interest of standardization, and that is the turbine's unusually heavy steam demand

when starting and accelerating a train and which would be particularly embarrassing with a condensing locomotive, as it would throw an exorbitant temporary load upon the condenser.

In order to eliminate this weakness of the steam turbine, it would have to be either run at a constant speed, and its power transmitted electrically or hydraulically to the variable-speed drivers, or else a turbine would have to be combined with a simple type of non-lubricated rotary cutoff engine. If the latter arrangement could be made practical, much weight and expense could be saved. Finally, because the tractive force of a direct-driving steam turbine-when operated with constant boiler pressurewould also decrease, as in a variablecutoff engine, more than is desirable with increasing locomotive speed, it would be found helpful to correct this tendency by arranging for a system of boiler firing with which the boiler pressure automatically rises with the locomotive speed and attains its highest practical value at maximum speed. In other words, the largest power development per pound of weight on drivers would be assured if one planned to increase the total heat drop of the steam steadily as the locomotive's power requirement increases.

A development of the application of steam to motive power along such general lines would, the writer believes, represent an important step in the direction of reducing operating costs with steam. Condensing operation in itself would make the operator relatively independent of water problems and would vastly increase a steam locomotive's availability. Moreover, if the latter were adapted, like the present steam locomotive, to burn either solid or liquid fuel its operation would also be less affected by future disparities in the price of these two types of fuel than of locomotives which are only operable with liquid fuels.

On the basis of actual experience with boilers, superheaters and steam turbines operating at very much elevated pressures and temperatures in stationary power plants, one may well conclude that an overall efficiency nearly double the one of the present conventional steam locomotive could be reached with such a condensing locomotive, and without undue risk, as far as the strength of materials and the safety of the operators are concerned. One cannot make a definite prophesy of the cost of the condensing steam locomotive, because of its many novel features, until a satisfactory design is completed in all detail and until one such locomotive has been built in accordance with it and has undergone actual road trials. It is, however, fairly safe to predict that its total weight per drawbar horsepower would be appreciably lower than the one of either the present conventional steam locomotive with tender or the Diesel-electric locomotive.



Timber Track Sub-Structure Unearthed After 102 Years

Excavators at Warrenville, S. C., recently came upon a 35-ft. section of the original track of the South Carolina Canal and Rail Road Company, laid in 1833 between Charleston and Hamburg, S. C. The timber track structure, discovered just 375 ft. from the present track of the Southern, is said to be in a "remarkable state of preservation," due doubtless to "Kyanizing," a system involving the treatment of timbers with a solution of corrosive sublimate—something of a fore-runner of present-day methods of using creosote and other wood preservatives. In the above section, 6-in. by 9-in., pine timbers were laid lengthwise of the track about 8 ft. apart. Across these crossties were secured to the foundation timbers by a stout wooden peg at each end. A 6-in. by 10-in. timber was laid upon these ties, to which the iron rail was affixed. Note the wedges by which this timber was held in position against the crossties, thereby fixing the gage. A 12-in. by 14-in. drain box, of heavy planks, was placed below the crossties, and ran for a considerable distance in the center of the roadbed.

Freight Congestion Continues Serious

If further bad weather comes, more embargoes may have to be applied — Railways are overcoming effects of earlier blizzards

As this issue went to press on February 1, indications were that a further embargo order was in prospect from O. D. T.

WHILE awaiting more definite indications of the results of a drastic embargo on domestic freight movements in and through the East over the past week-end, the Association of American Railroads and the Office of Defense Transportation were weighing the necessity of taking further action to relieve congestion and delays to car movements caused by continued blizzards and exceptionally heavy snowfall through large portions of the embargoed area. Estimates of the total number of cars delayed or stopped by the cumulative effects of the severe weather ranged around 200,000.

As noted in Railway Age last week, general embargoes affecting the movement of most civilian freight into the region east of the Alton Railroad and Mississippi river and north of the Ohio and Potomac rivers were first issued by the A. A. R. Car Service Division on January 22. These embargoes were effective through January 27, but before their expiration a much more stringent but less extensive embargo was issued, effective at 12:01 A.M. on the 27th and remaining in effect for three days, that

is, through January 29.

The January 27 embargo, C. S. D. No. 43, superseded Nos. 35 and 37, which were issued January 22. It provided that "No railroad operating in the United States, Canada or Mexico, will place cars for loading, or sign or issue bills of lading for carload or l.c.l freight consigned, reconsigned, or intended for destinations in, or moving via any railroad through, the states of Indiana, lower peninsula of Michigan, Ohio, Pennsylvania, New York, Maryland, Delaware, New Jersey, West Virginia, and Virginia north of the line of the Chesapeake & Ohio extending from Huntington, W. Va., to Potomac Yard."

What Embargo Did

The effect of this embargo was to prohibit loading of cars within the affected area, which had been permitted under the earlier order, as well as at other points when intended for movement to or through that region. While the first embargo had excepted oil, coal and coke, livestock, meats, certain shipments from Canada, and certain classes of l.c.l. shipments, as well as export freight and war materials, No. 43 applied to practically all civilian freight. Four excep-

tions were specified: Export shipments moving under O. D. T. permits; freight moving on Army, Navy, Marine Corps or Coast Guard bills of lading; shipments moving on commercial billing and consigned to those "ordnance plants" to which such designation was officially assigned by the armed forces; and traffic which the armed forces certified to the A. A. R. to be essential to the war effort.

Because this order halted for three days all railroad shipments of coal, oil, foods, newsprint, and other essential commodities into or within the East, it was expected to have serious effects on industry and business in that region, and to a lesser degree throughout the country. Because these effects would not show up immediately, but would appear as shipments failed to arrive at destinations in that area at the times they normally would have been delivered, it was not possible for C. S. D. or O. D. T. officers in Washington to assay the full results of the embargo immediately. Furthermore, lasting relief from congestion in some sections was dependent largely upon the weather from day to day, and unfavorable reports thereon gave rise to speculation that further embargoes, perhaps some-what less severe in effect, might have to be ordered before the normal flow of traffic could be resumed.

The situation which brought on the embargo was among the principal sub-

jects discussed at the January 26 Washington, D. C., meeting of the A. A. R. board of directors. The meeting was attended by Director Johnson of O. D. T., who said afterwards that, while conditions were getting better, they were "far from good." He added that there was enough freight in the embargo area to bog down every railroad there. The first embargo had helped some, the O. D. T. director said, pointing out that the week-end embargo was much more severe.

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More Embargoes?

When asked if the week-end embargo would be extended beyond its announced expiration time, Colonel Johnson replied in the negative; for, as he put it, the country "couldn't stand" such a ban for "more than three days at one time." And while he insisted that "we'll be all right"—"we'll get through," the O. D. T. director conceded that to do so the carriers would need a break in the way of more favorable weather, plus all the desired effects of the week-end embargo.

If that doesn't do the job, Colonel Johnson is prepared to adopt whatever further measures may be necessary. In that connection, he indicated that the next step, if further action became necessary, would probably be establishment of another like embargo next week, perhaps for two days. He also pointed out that passenger schedules could be fur-



A New York Central Yard at Buffalo

Railway Age-February 3, 1945

ther reduced, but only at "great inconvenience to the business of the country." Finally, the O. D. T. director suggested the possibility of stopping all freight loading in the country for one day. He insisted, however, that O. D. T. wants to do only what is necessary, and what will bring the least general burden.

Emergency Measures

While, as stated, no conclusions had been reached when this issue went to press as to what further steps would be taken, it was understood that serious consideration would be given to changes in the area covered and the commodities excepted from the embargo in the event that another should be ordered. At the same time, it was pointed out that the effects of the congestion had become widespread, as cars intended for localities where acute blockage first developed had to be held en route. And, at the same time, the resulting interference with the normal flow of empty cars or return movements from the congested area impeded the maintenance of regular car supplies at distant originating points, particularly mines, mills and refineries depending on closely scheduled operations.

The severity of the week-end embargo led to emergency measures by various federal, state and local government agencies, particularly where fuel stocks were low and receipts were seriously delayed. While provision was made under the embargo for the armed forces to permit movements of freight otherwise prohibited, it was estimated that such authorizations affected only some 3,500 cars during the period the order was in

At the time the week-end embargo was announced, Colonel Johnson issued warning against shipping civilian freight to points just outside the embargoed area in the expectation of moving it into that territory when its prohibitions expired. "The situation will be intolerable if the lifting of the embargo next Monday midnight finds a great number of freight cars waiting just beyond the barriers," he said, pointing out that such "bottleneck" conditions would produce even more serious shipping conditions.

"While military freight must be moved first," he added, "it is realized that the resumption of the movement of essential civilian freight cannot be too long delayed. But the needed fuel and food will reach the cities in the embargo zone all the more speedily if it is moved at a normal rate without congesting gateway points so seriously as to clog the flow of traffic."

In this statement, the O. D. T. director said also, "I expect every railroad worker in the affected area-from president down-to consider himself on extra war duty during this emergency. We must clear the way for war freight desperately needed overseas."

Solid Fuels Administrator Ickes. meanwhile, had invoked his full wartime authority to effect conservation and fair distribution of available supplies of coal to meet emergencies within the embargoed states. He took action to forbid deliveries to consumers who had more than a 5-day supply of fuel on hand and urged mayors of cities within the area to curtail or eliminate the use of solid fuels in places of amusement (theaters, moving picture houses, bowling alleys, and night clubs), libraries, museums, schools and other buildings, both public and private, where curtailment could be effected without damage to health.

On January 30, Deputy Solid Fuels Administrator Potter pointed out that supplies of coal will continue "tight" through the rest of the winter in many localities. Extensive diversions of coal in transit were ordered over the last week-end, he explained, with the view of relieving the "transportation jam" at northern railroad terminals by getting the cars to other points where they could be unloaded quickly and dispatched back to the mines for new loads. These diversions helped some communities, but will add to the difficulties of others until a balance can be restored,

Gene Coughlin Diversion Agent

Tank car shipments of crude oil and petroleum products into the Atlantic seaboard area during the week ended January 20, before the strict embargo was effective, averaged 455,945 barrels a day, as compared to around 600,000 barrels late last year. The area covered by those figures is not identical with that to which the embargo was applied,

On January 30, moving to avert a critical shortage of industrial fuel oil on the East coast, the Petroleum Administrator called on 87 large consumers in that area to use stand-by facilities that already have substitute fuel on hand. Fifteen utility companies and 72 other large industrial plants were affected, all of them having at least a 30-day supply of coal on hand for such

emergency use.

To facilitate rerouting of freight to take fullest advantage of open routes in the territory most affected by the severe weather, the Interstate Commerce Commission's Service Order No. 275 was revised January 27. The provisions of the original order—reported in Railway Age of January 27, page 242-were modified include the District of Columbia within the territory affected, and to name E. W. Coughlin as the Commission's diversion agent under the order. The Commission also has issued Service Order No. 277, effective January 27 through February 26, unless otherwise directed, preventing diversion or reconsignment of refrigerator cars loaded with fresh fruits or vegetables to points within the territory covered by C. S. D. Embargo 43.

Governor Thomas E. Dewey of New York, on January 30 proclaimed an "emergency" in transportation, particu-

larly in the delivery of feed for livestock and fuel, and appointed the state's public works superintendent as "emergency director of transportation," with authority to use state-owned trucks to make relief deliveries where ordinary commercial methods of delivery might prove inadequate to the need.

The New York regional offices of the War Manpower Commission, the armed services, and the Railroad Retirement Board on January 30 issued a joint appeal for emergency labor to relieve the shortage of railway labor in the area. Mrs. Anna Rosenberg, regional director of the W. M. C. was quoted as stating that "the railroads have done a magnificent job against every kind of handicap in trying to move priority materials through freight yards crowded as a result of upstate storms. They have taken every emergency measure, but unless the public realizes the need for immediate emergency action, serious damage to war production and to military supply lines will result."

The New York Central reported on January 30 that sub-normal tempera-tures still prevailed in the "upstate" New York area, Rochester reporting -6 deg. F. on January 29. Up to January 27, Syracuse had had more than 102 in. of snowfall; Buffalo had had 81 in. The blizzard which struck Buffalo on January 2 was the worst in the city's history, and subsequent heavy snowfall, excessively low temperatures and high, winds have afflicted that area which, because of the acute shortage of manpower, had not been able to dig out from under the initial Boreal blitz.

The heavy snows have rendered impossible the normal functioning of the many freight yards in the important area-and the necessary delay attendant upon digging out these yards with inadequate forces has, probably, been the principal contributing factor to the congestion which has spread over a much wider zone.

How Carriers Are Making Out

The New York Central has temporarily suspended a few passenger train schedules, to enable it to devote more attention to freight. As of January 30, the Central was able to advise that "the embargo helped us greatly and we are making favorable progress in getting back to normal, although this will take

considerable time yet."

The Pennsylvania reports that, while movement is very heavy and weather conditions adverse, movement is not blocked anywhere—the traffic is flowing. The company announced on January 27 that, effective on January 29 and in line with the policy of the O. D. T., some coaches and sleeping cars on a number of its trains connecting New York with Chicago, were re-arranged, and a few cars withdrawn, to aid in achieving maximum utilization of locomotives for the movement of war freight. The program, it was stated, would give the public virtually the same service as was heretofore provided but with somewhat different departure and arrival times for certain cars.

The Baltimore & Ohio advises that, "while there have been some tight spots brought about by heavy movement, adverse weather conditions, and shortage of men, the situation at no time has reached the proportion of a blockade." As of January 31, this railroad's operations were reported as "fluid except in the Buffalo district where extremely low temperatures and heavy snowfall have retarded the movement on all lines and our situation has been aggravated by reason of the inability of connections to accept traffic in interchange currently."

"The embargo order found the Jersey Central in good shape"—so that company advised Railway Age on January 31-"except for lighterage and carfloatage which piled up even heavier during the embargo period. Because we were otherwise fluid, we asked the O. D. T. and the A. A. R. to permit us to continue shipments confined to our own line, especially the anthracite which originates on the Jersey Central in Pennsylvania and which is disposed of on our own line, either by direct delivery or by way of Pier 18 on the Jersey City waterfront where our dumpers pour the coal into barges for the New York Harbor area. Our request was denied, however. Since we started the embargo in good shape, it was not of any assistance to us that we can now see, but perhaps we were the exception rather than

A Report from R. E. Woodruff

"We have had the worst weather in many years over eastern part of our railroad, particularly in Buffalo, where rains on top of snow turned into ice and froze about 900 cars directly to the rails, making it necessary for us to pick cars out of the ice one by one"—so President R. E. Woodruff of the Erie, reported on January 31. "All of these cars had been released and Buffalo restored to normal by last Sunday, but new snow and bad drifting last night, and continuing today (January 31), is slowing up the movement of cars.

"Our main line, running through southern New York state, was not so badly affected as at Buffalo, and the movement of cars daily has been substantially normal for the past ten days. There have been slight accumulations in two main yards. We are now handling four trains of freight a day to relieve neighboring lines. Keep 'em rolling!"

"During the latter part of December and the first week of January," the Nickel Plate reported, "weather conditions at Buffalo resulted in slowing up all yard movement and interchange of cars between connecting railroads, causing congestion of cars on the Nickel Plate as well as on other railroads. Weather conditions improved west of Buffalo before they improved to the east, and congestion which has occurred since that time has been due primarily to the inability of connecting roads to

accept cars through the Buffalo gateway because of weather conditions at Buffalo and east.

"There has been little congestion from any other cause except that some cars have been held out of Cleveland because of the shortage of man-power. At the present time the number of cars held back on the Nickel Plate is very small and it is expected that the situation will be cleared up within the next day or so insofar as the present back-up is concerned. During this period several cars have been diverted over various connections to avoid movement through congested territory."

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Here Is What Happened

By WILLIAM WHITE

President, D. L. & W.

On the evening of December 11, and continuing through until the evening of December 12, there was, roughly, a 15-in. snowfall in the Buffalo area, accompanied by high winds and considerable drifting, which proved a severe handicap to railroad operations and virtually stopped surface transportation in the area, so that the already acute shortage of switchmen in the Buffalo territory was accentuated by the inability of men to get from their homes to their jobs.

There were intermittent snow-falls subsequently until December 27, when there was another snowfall of from 12 to 15 in. again accompanied by high winds. This left a lot of snow on the ground, and it was immediately followed by a thaw and warm rain New Year's day. This saturated the snow. As the weather gradually turned colder, it began to snow again, and there was another snowfall of about 15 in. and at the same time a quick freeze.

That is when the real damage was done, because virtually every freight car standing on a track in the Buffalo area was not only frozen to the rails, but the snow drifted around the trucks up to the car floors and in many cases in exposed places the snow drifted against the sides of cars up to the roofs. There was no way to loosen these frozen-in cars except to have men dig them out with picks and shovels one at a time until an entire track was clear, and then it was possible to use bulldozers and Jordan spreaders, snowplows and all other machinery available to clear the ice and snow off the tracks, one at a time. Every time about three adjacent tracks were cleared, the fourth track had to be blocked with snow and ice piled up on it. The fear then was of additional snowstorms coming along with no place left to dispose of the snow, so that thousands of cars had to be loaded up with snow and ice and taken to places where it could be unloaded.

Between each one of these three heavy snowstorms there were intermittent snows and high winds. On January 22 there was a fall of three to four inches of fine sleet, accompanied by a 45-mile wind, and engines could not secure any traction because of this fine sleet on the rails and the inability to get sand on the rail be-

cause of high winds. Prior to this happening the situation had been gradually improving, but it caused another set-back.

On the night of January 30, virtually the same thing happened, and in addition to the heavy storms and high winds there has been extremely cold weather.

The railroads in the Buffalo area have had difficulty because of shortage of engine, train and yard crews for some time, and, because Buffalo is an important war-production point, there were about 74 industries in Buffalo that were taking the available labor supply ahead of the railroads on account of War Manpower Commission regulations. In addition, the coal supply for locomotive use has not been of the high grade normally used, with the result that engines required more frequent cleaning of fires and ashpans and the blowing out of flues with consequent increase in time required to turn, and also this bad coal condition caused excessive failure of flues and superheater units, so that the power difficulties have been worse than normally, at a time when power was so essential to overcome the terrific handicaps of a winter in the northern New York area that residents who can remember back as long as 60 years say is the worst in their recollection.

Despite these severe handicaps, tribute is due to the regular employees of the railroads for the manner in which they have pitched in and worked long hours under severe weather conditions, realizing that transportation is in the front line of the war effort.

From December 11 to the end of January the snowfall in the Buffalo area has been about 90 inches, and in some parts of northern New York much in excess of that. With the heavy accumulation of snow on the ground, railroad men already look apprehensively to the possibility of warm spring rains causing flood conditions. Too much cannot be said in appreciation of the cooperation that has existed between all railroads in trying to work out their operating problems in a mutual effort to carry on without regard to normal procedure, and the patience and assistance of the public generally has been of a high order.

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"Despite the fact that we have handled the heaviest tonnage in the history of our railroad," the Chesapeake & Ohio advised on January 31, "and notwithstanding the abnormal temperatures and the unusual amount of snow on certain parts of our railroad, we have not had any congestion of traffic except occasional slow-ups at interchange points on account of the failure of our connections to accept business which we offered currently.

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"The business which was handled on our railroad during the week starting with January 22 was the heaviest week's business in the history of this property. We cooperated with neighboring lines and approached the industry situation with a desire to be of maximum assistance to clear up the congested territory We offered to accept and have accepted heavy tonnages from the Norfolk & Western at Columbus-some days as much as 500 cars-over and above the normal receipts moved to connections at Toledo to relieve lines that normally handle that traffic. We have accepted from connections at Cincinnati an average of 75 cars of oil a day which were diverted from other lines, moving this oil to Virginia junctions for movement by other lines to destination.

Diversion to C. & O.

"We have moved several trains of empty boxcars from Potomac yards (Washington) to Cincinnati without compensation in order to get these empty cars in producing territory. We accepted from the Seaboard Air Line and Atlantic Coast Line at Richmond about 500 cars and detoured them over our railroad to Potomac yards (Washington) to relieve the Washington-Richmond direct lines and by that same route moved 500 refrigerator cars in order to get them in southern producing territory and relieve the Washington-Richmond direct line which was temporarily overburdened.

"We have leased our surplus locomotives (20 in number) to neighboring lines to move business in congested Yesterday we were advised by E. W. Coughlin, diverting agent of the Interstate Commerce Commission at Chicago, that we would take 60 loaded cars a day of diverted freight at Chicago for northeastern destinations and move them over our line through Virginia cities junctions. This has now been set-up by Mr. Coughlin in his Order No. 3.

"At this writing we have advised Mr. Coughlin that we can handle an additional 100 cars a day of diverted freight at Cincinnati and take it to Newport News to be floated to Norfolk if northbound connections at that point can handle .it."

The Pere Marquette reported on January 31, that there was no congestion on its lines caused by any local conditions, except that the railroad is holding cars destined for movement over other lines at the Niagara frontier. "However, the holding of these cars is not interfering

with the free movement of goods over the Pere Marquette for other destina-tion," the railroad further stated. "Some headway is now being made in detouring cars which have been held for eastern roads at the Niagara frontier."

New England and Canada

"Despite a 12-in. to 15-in. snowfall, followed by a three-day spell of extremely cold weather with sub-zero temperatures throughout Northern New England," the Boston & Maine and the Maine Central reported on January 30, that "fortunately these railroads have nothing currently nor have they had anything approaching a tieup or conges-

tion of freight.

"Following the first storm all yards were spread with spreader and train. A 5-in, snowfall which followed shortly did not bother us. A week later 9 in. of snow fell and again all major yards were spread. We consider the major reason for the successful handling of freight on practically an ontime basis through unusual weather to be the use of new heavy Diesel freight power on main lines, and the fact that practically all major freight yards are now operated with Diesel power. Operations on both Maine Central and Boston & Maine were entirely normal on January 30."

The New Haven advised on January 31 that, although weather conditions in its territory had been more severe this year than during the past several years. both from the standpoint of continuing low temperature and accumulation of snow, it has "thus far been able to cope with the situation. These conditions have increased the operating difficulties, but have not greatly impaired the movement of passenger and freight traffic over the lines of our railroad.

The Canadian National advised on January 30 that, while weather conditions in Canada have been more severe than usual, it has managed to maintain its operations "with occasional delays to certain passenger trains. Because of the conditions we have had to resort to the operation of snowplows to a very increased extent and in some sections this is as much as 300 to 400 per cent over last year. As a result of these efforts we have maintained a full operation with regard to the handling of traffic. In the recent critical situation affecting the northern portion of the United States we have offered to assist in the relief of the congestion by diverting some of the traffic via our route. This offer is being acted upon at the present time."

"Despite unusually severe weather conditions in the entire territory between the Great Lakes and the Atlantic seaboard," the Canadian Pacific reported on January 31, the C. P. R. "has succeeded in handling freight and passenger traffic currently and furthermore has been able to extend a measure of help to our American railroad friends by moving some of their traffic between the Detroit gateway and New England."

Some adverse effects from the East's severe weather and resultant embargoes were felt by railroads outside the embargoed territory. Prior to January 22 when Embargo No. 35 was issued shippers anticipated the action and had curtailed some shipping to the East, and when Embargoes Nos. 35, 37 and 43 were placed in effect, the loading of all embargoed shipments was stopped. The easing off of heavy demands for transportation afforded a breathing spell for western lines that had been handicapped by labor and car shortages. One railroad reported that the embargoes enabled it to use cars and personnel to clear up in a few days freight that had been accumulating at its freight stations since Christmas.

The major accomplishment of the embargoes in the West was the elimination of new business that would not only further congest the eastern territory but would eventually glut interchange points in the West. As a result of the curtailment after shipments, lines outside of the embargoed territory were able to feed their unembargoed traffic, either directly or over less direct routes to the more fluid lines in the East and thereby avoid holding cars.

On most western railroads, little difficulty was experienced in dispatching cars to eastbound connections and no accumulation of loaded cars has oc-

While the embargoes were intended to correct a situation that resulted from bad weather conditions at certain points in the East, their application to territory as far west as the Mississippi river closed several important gateways and prevented routings over lines that were free to handle traffic to unembargoed territory. Embargo No. 35, which was issued on January 22, for example, embraced the Chicago switching district, the line of the Alton from Chicago through Springfield to St. Louis, the St. Louis-East St. Louis switching district, the Mississippi river from St. Louis, Mo., to Cairo, Ill., and the Ohio river from Cairo to Huntington W. Va. By including Illinois and Indiana in the embargoed territory, through routes from the South and Southeast to Chicago over railroads in Illinois and Indiana were interrupted even though most of them were able to handle traffic from these areas.

Effect of Embargoes

Embargo No. 43 issued on January 27. although it had fewer exceptions, afforded some relief in that it did not include Illinois. However, it did embrace Indiana and the Cincinnati switching district. The inclusion of Illinois under Embargo No. 35 even though it applied only to C. L. and L. C. L. freight consigned, reconsigned or intended for destinations in embargoed territory had an adverse effect upon a large number of railroads in Illinois and Indiana, especially the Illinois Central, the Wabash, the Alton and the Chicago & Eastern

Water Treatment Saves Large Sums

A review of the development of treatment for locomotive feedwater on the New York Central System, reveals that a net saving of more than 2½ million dollars a year is being realized*

THE locomotive water supplies on the New York Central System are relatively good in comparison with those on some of the other railroads, and prior to 1924 water-treating practices varied widely in different territories. A few lime-soda water softening plants had been built on certain divisions, but for the most part reliance was placed upon manually-applied tender tank treatment.

Originally, on one short division, seven of the nine water stations were equipped with water softening plants. The hardness of the water at these nine stations averaged 30 grains per gallon. Before this treatment was installed, locomotives operating on this division required tube and firebox sheet replacements within six to eight months, due to heavy dense scale and pitting. After treatment, which by the way was not complete, the life of tubes and firebox sheets was extended about three-fold. Relatively, this was a vast improvement, but scale and some corrosion persisted with boiler maintenance still on the excessive side.

Early Studies

Up to this time there had been sincere differences of opinion, not only as to the best form of water treatment but as to whether water treatment of any kind could be justified economically. In 1924, therefore, an investigation was undertaken to ascertain (a) what water supplies required treatment, (b) what kind of treatment should be installed, (c) what the treatment would cost, and (d) what savings could be expected.

This necessitated a knowledge of the consumption and quality of each water supply as well as the cost of boiler maintenance and fuel consumption. After many months, these data were collected and the report revealed that, for each territory, boiler maintenance and fuel consumption were directly related to the quality of the water and that they increased as it became harder.

During this same year, 1924, the water service committee of the American Railway Engineering Association reached the conclusion that for each pound of incrusting solids allowed to get into a locomotive boiler, the loss to the railroad would amount to at least 13 cents. A comparison of the losses, as disclosed by investigation on the New York Central, and those derived by applying the A. R. E. A. formula,

Abstract of paper presented at the annual meeting in 1944 of the American Society of Mechanical Engineers, at New York. By T. W. HISLOP

Water Service Engineer, New York Central System

revealed a remarkably close accord. The A. R. E. A. formula produced losses slightly less than the New York Central study, which justified its use for conservative calculations of savings to be

expected from boiler water treatment. As a result of this investigation, treatment was recommended for 160 water supply stations. The gross saving which would be effected thereby was estimated at approximately \$1,400,000 a year. The cost, including chemicals, labor, interest and depreciation on equipment, amounted roughly to \$400,000. Thus, a net saving of approxi-

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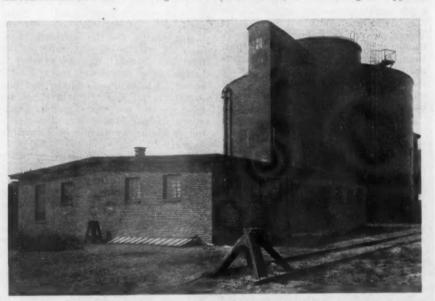
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Treating Plant of the New York Central at Elkhart, Ind.



Portion of an Internal Treating Plant, Showing Electro-Magnetic Proportioner on the Chemical Vat, Centrifugal Chemical Pump, and Control Meter

Railway Age—February 3, 1945

mately \$1,000,000 a year was anticipated.

These figures prompted the adoption of a program for treating the water supplies as recommended. Before doing so, however, it was deemed advisable to treat the waters fully on the aforementioned division to ascertain the maximum economies that could be expected before proceeding with the balance of the program.

Program Adopted

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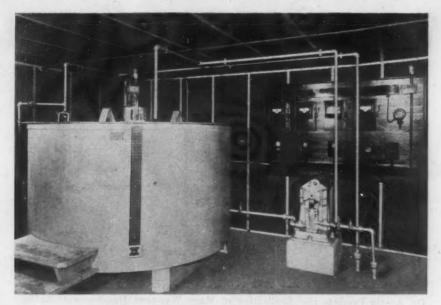
Lime-soda softeners were employed at these water stations and full treatment was administered. However, before this was done, it was arranged to have the locomotive boiler blow-off valves equipped with levers for cab operation so that on-the-road blowing could be done, in addition to adequate terminal blowing, to prevent foaming. In due time, it was apparent that the results were comparable with those predicted, and in reporting this investigation, 87 lime-soda softeners, and 73 wayside treaters employing compounded chemicals, were recommended.

After completion of the experiment with lime-soda treatment, it was decided to prove the merits of wayside treaters. The Ohio Central division was selected for this experiment, as the 21 waters in use there averaged 18 grains per gallon of hardness. At first, the treatment was only partial, as it was believed at that time this would be ample with this form of treatment. This resulted in considerable improvement, for the amount of scale formed within the boilers was greatly reduced and nearly all pitting and corrosion were eliminated. However, after six to eight months with this treatment, mud banks were formed between boiler tubes and it was necessary to remove part of the tubes in order to clean out this accumulation. A 20 per cent increase in the treatment resulted in a longer period of time between the formation of such mud banks, and also lessened the amount of scale formed.

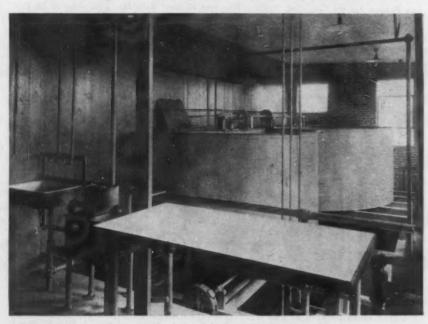
It was then decided to treat these waters fully by the wayside method. Before doing so, it was recommended that cab-operated blow-off facilities be installed on all locomotives operating on this division as the terminal blow-down employed at that time would not be sufficient for satisfactory boiler operation with full treatment.

\$21/2 Million Saving Yearly

Authority was given to apply full treatment to five locomotives operating in this territory, introducing the treatment into the tender tank manually, to determine the maximum economies obtainable therefrom. This proved very successful. Washout periods were extended from 6 to 30 days, time between shoppings doubled, and running maintenance became negligible for the locomotive boilers so treated. The results of these experiments proved conclusively that full treatment was well



Internal Treating Plant, Showing Chemical Tank, Pump and Control Panel

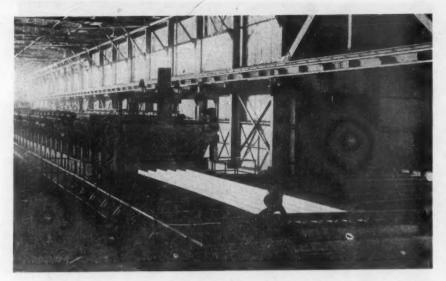


Chemical Tanks and Proportioner of the Large Lime-Soda Water Treating Plant of the New York Central at Elkhart, Ind.

worth while, and in 1935 authority was given for the extension of treatment to all territories of the New York Central System.

At the present time, a total of 253 water supplies are treated, employing 34 lime-soda softeners, 78 liquid proportioners and 141 by-pass feeders using compressed chemical compounds. The present estimate indicates that a net saving of more than \$2,500,000 a year is being realized from water treatment on the New York Central System. If consideration is given to the intangible benefits derived from the extended time between boiler washouts, less boiler maintenance and the greater mileage realized between shoppings, which result in greater availability of power, the saving would far exceed the above-mentioned figure. The time between washouts has been extended in most cases from 6 days to 30 days and mileages between shoppings have increased more than 100 per cent.

Lime-soda softeners, wayside liquid proportioners and by-pass feeders are utilized for proportioning treatment to water supplies. Their selection depends upon the quality and quantity of the individual water. Waters with a high hardness, or those with a relatively low hardness, but required in large volumes, are served best by a lime-soda softener, the advantages of which are cheaper treatment plus removal of practically all hardness, together with removal of any organic pollution and suspended solids contained in the raw water. This means that there will be less suspended or precipitated solids in the boiler waters, (Continued on page 274)



Dr. Austin Predicts the Application of Many War-time Developments to Improve Steel Products

This Furnace for the Controlled Thermal Treatment of Steel Rails Has a Capacity of 70 Tons
Per Hour



A Corps of Inspectors at the Gary Works, Carnegie-Illinois Steel Corporation, Checking Some of the Axles That Have Helped the Railways "Keep 'Em Rolling"

Steel in Post-War Technology

By DR. J. B. AUSTIN

Assistant Director of Research, United States Steel Corporation, Research Laboratory

IT IS improbable that during the first years of peace the production of iron and steel will continue without interruption at the present extraordinarily high rate of about 90 million tons of ingots a year. Whatever fluctuations occur will be attributed much more to a general readjustment to civilian econ-

* This article is an abstract of an address given by Dr. Austin before the Brooklyn Institute of Arts and Sciences, on January 5.

omy than to the loss of markets to competitive materials.

Many have the impression that steel is being pushed out of the market. Even though plastics and other materials responded quickly and performed creditably to war-time needs, and many applications undoubtedly will carry over to peace-time use, the final answer will depend upon performance and cost. Actually, there is little overlapping among the respective fields of greatest usefulness of the several materials which are, in fact, more complementary than com-

Steel for High Strength

Although plastics have shown a remarkable growth in production and applications such as trim, parts for refrigerators and washing machines and in electrical uses where their properties are especially suitable, steel still is the preferred material where high strength, stiffness, and resistance to temperature are required, and where cost is an important element. Competition from the light metals is being projected in the transportation industries and the use of alloys of magnesium or aluminum is to be expected in aircraft. There, too, certain grades of steel will be contenders for a larger share of the markets.

Undoubtedly, advantage will be taken of many war-time metallurgical developments such as: (1) The use of boron in steel to enhance hardenability; (2) new knowledge, experience and steel compositions in connection with the use of steel at elevated temperatures; (3) the use of welding as a means of fabrication on many grades of steel that hitherto were considered hardly weldable; (4) the continued use of at least some of the NE steels.

Many parts formerly machined from solid stock undoubtedly will be formed by pressing or welding, saving both steel and labor, as advances in design become available. Powder metallurgy offers great possibilities as well.

We may expect to see radically new designs in railroad equipment. In the construction of this equipment there will be a wider application of high-strength, corrosion-resistant steels. The higher speed and heavier loadings of trains will favor the increased use of rolled steel wheels.

The outlook for increased use of steel in housing also is favorable. Fabricated units and fabricated houses will be available, taking advantage of the mass production technique which put automobiles, radios and mechanical refrigerators within the means of millions. Even though an all-steel type of construction is not projected for normal residential purposes in this country, the British government plans to erect some 100,000 temporary all-steel "Portal" houses each year for three years. This housing project alone will consume about twice the tonnage of steel sheets used by the British automobile industry in prewar years.

Prefabricated Buildings

Increased use of light gage structural steel may be expected. These constructions offer the advantages of increased fire protection, greater strength and reduced maintenance costs. Moreover, in large scale building operations economy and speed are achieved through standardization of structural units and

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has bee tainers has app necessa prefere still ex will be less ste and tra at the ture of acceler are 27 each c at the

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Nor after Railw through quantity production. War-time developments in this field will be immediately available for post-war uses. There is a tremendous accumulated de-mand for fencing, tractors and other

mechanized equipment.

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In the container industry, because of war-time regulations, the use of steel has been restricted, yet for large containers no serious competitive material has appeared. Substitutes for tin plate necessarily have been employed, but a preference on the part of food processors still exists for tin plate. Likewise there will be a renewal of demand for stainless steel tanks for processing, storing and transporting milk. Just beginning at the start of the war, the manufacture of electrolytic tin plate has been accelerated tremendously. Today there are 27 electro-tinning lines in operation, each capable of producing tinned strip at the rate of hundreds of feet per

minute, yet consuming only half to onethird the amount of tin that was con-sumed on hot dipped material. Further refinements are being worked out and applied to these processes, which are now well established in the tin plate industry and the post-war use of electrotinned steel plate may be expected to increase steadily.

The steel industry is well aware of the problems that confront it in postwar markets. It is, however, fortunate in that it can apply directly in a large percentage of cases, the new knowledge and skills gained in solving the problems presented during the present emer-

Many developments, now vital sec-rets, will be of the greatest use to post-war users of steel. All branches of industry, as well as the steel consuming public, will benefit from steel research and technology after the war.

close cooperation with French civilian electricians, are reconstructing signal facilities.

Third Phase Operations

In December, the Second Military Railway Service planned to place all lines west of Paris in Phase III (civilian-operated lines with military supplies holding top priority). Some lines west of Paris were placed in the third phase of operations and five grand divisions under the 2nd M. R. S. were shifted to new locations in Belgium and France. The German offensive delayed the complete conversion of western lines to the final phase. The 707th Railway Grand Division, first to land on the continent, and now commanded by Lieutenant Colonel Garrett C. White, and the 729th, the first railway operating battalion to operate a railway line in France, have been assigned the operation of one of the important terminals in the forward area. The operating battalion, now commanded by Lieutenant Colonel Worthington Smith (Scranton, Pa.), was responsible for the swift opening of the Cherbourg division and ran the first passenger train over the line. Those grand divisions which will operate in the forward areas with the 707th are the 706th under the command of Lieutenant Colonel Louis G. Jamison (Jersey City, N. J.); the 708th, commanded by Colonel William S. Carr (West Haven, Conn.), the 709th (Lieutenant Colonel Burrell M. Chappell of Omaha, Nebr., commanding), and the 710th (headed by Lieutenant Colonel Otto D. Grill, Ponca City, Okla.)

Mounting of Supplies

During October, November and December, freight trains by the hundreds arrived in the Paris area from supply dumps and ports in Normandy and Brittany. Aiding in the build-up of supplies in the forward areas, which later proved one of the deciding factors in the turning of the German tide, as many loaded trains fought their way northward and eastward. Daily tonnage during this period was in the neighborhood of 40,000

The sudden explosion of enemy activity which rolled back the First Army front in the waning, mist-shrouded days of December, brought a temporary halt to the steadily mounting tonnage record of the railroads. The speed of the offensive was alarming in the first week and loadings by the railway battalions had to be reduced until the position of the American armies could be improved. Since then, the tonnage performance figures have steadily gone up again.

During the increased enemy activity, damage was done to installations and equipment in the forward areas. But immediate action on the part of American railroaders prevented any serious tie-up. Most important, rolling stock and locomotive power was removed to safety when the enemy drive first threatened, and this same equipment is

French Railways Much Improved

2nd Military Railway Service, now controlling over 8,000 miles of line, boosts daily traffic to 50,000 tons

THE Second Military Railway Service of the Army Transportation Corps attained a record of approximately 50,000 tons a day hauled in the early part of December. Some indication of the months of back-breaking labor and hard living conditions which contributed to this achievement was given in an article in Railway Age of January 20, page 194. G. I. railroaders went for days without sleep or food, working in the biting cold, running the trains, clearing and repairing twisted rails and fire-scarred equipment in yards which will require years to rebuild. These were the conditions under which the Americans had to operate the railroads west of Paris.

In Normandy

East of the French capital conditions were entirely different. The German retreat was swift after they pulled out of Paris. The railway lines, locomotives and rolling stock were not subjected to the same degree of destructive treatment as the western lines. In Normandy and Brittany, the Allied Air Forces, as well as German demolition squads, had given the railways a thorough "going over." As a result, trucks of the Motor Transport division, Transportation Corps, had to bear the brunt of supplying the armies with necessary materiel and transporting troops until repairs could be made to roadbeds, tracks, sidings and communication lines.

It was early July before the M. R. S. could place a train into operation on the Normandy peninsula. Shortly thereafter a freight service was instituted, and later the M. R. S. was able to move forward behind the swiftly advancing armies as more lines were opened on the road to Paris.

In Eastern France, yards and tracks were found to be almost intact and lines of communication very good. Railway shops were operated almost entirely by French civilians, and American crews acted as advisers and serviced steam locomotives for daily runs. But the railway lines were under military control and handled by G. I. crews until such time as they could be returned to French civilians for operation-with the provision that military goods would receive. top priority.

In October and November, the railway battalions extended their lines of communication further into France and Belgium and consolidated lines and facilities already in operation. The Second Military Railway Service took over control of the line from LeMolay to Mezidon to Lisieux, the acquisition of which shortened the supply lines from west to east. Railway operating battalions began operating the yards at Caen and completed the clearing and rehabilitation of yards and tracks in the area. Bomb craters, which had been filled with earth but had settled were resurfaced with slag. Also, in the rebuilding program, bridge crews from the railway battalions installed new bridge ties on steel spans, and improved the line of road by removing and replacing track ties of uneven thickness. Plans are under way in this sector to switch over to the use of electric rather than manual signals, and signal crews have replaced communication lines and, working in now rushing supplies to dumps in the forward areas, strengthening the current counter-stroke of the Allied armies.

The enemy offensive over-ran approximately 225 miles of track, of which but little was of military value. The German Army was stopped short of one of its goals—the capture and destruction of one of the important American railway supply lines in Belgium and France which led into Germany. Approximately 160 miles of double track were captured and 65 miles of single track.

31 Hospital Trains

The Second Military Railway Service now has jurisdiction over several thousand miles of single and double track, in all phases, on the continent. Available to the American railroaders are many hundreds of locomotives and American shopmen Diesel engines. working side-by-side with French crews have repaired and returned to the French National Railways locomotives of all types and have in their own service many engines which were captured and serviced. Rolling stock received on the continent from the United Kingdom, since D-Day, has reached into the thousands. As the armies advanced into Belgium and Germany, in the past three months, more captured equipment came under the control of the railway battalions. Cars of all kinds, most of them usable, have fallen into the hands of the M. R. S.

Railway battalions have worked overtime to complete special hospital trains to speed the transfer of wounded from the battle areas to evacuation points far to the rear. 'Several complete hospital trains have been received from the United Kingdom and the 2nd M. R. S. now has at its command 31 of them.

First Anniversary 2nd M. R. S.

The Second Military Railway Service celebrated the first anniversary of its activation on December 28. The highlight of the celebration was a Christmas party, given on Christmas Day, when personnel of the headquarters entertained thirty French orphans at a dinner and presented them with gifts. The 2nd. M. R. S. was organized in the United States one year ago by Brigadier General Clarence L. Burpee (Jacksonville, Fla.), veteran of the African and Italian campaigns. General Burpee now commands more than 17,000 railway officers and enlisted men.

Headquarters and headquarters company of the 2nd Military Railway Service has been awarded the Meritorious Service Unit Plaque by Lieutenant General John C. H. Lee, Commanding General of the Services of Supply in the European Theater of Operations. This was the first such award in the European Theater.

Charged with the responsibility of planning for and then operating all French railroads to support the Allied invasion, the soldier-railroaders were cited for "superior performance of duty in the performance of exceptionally difficult tasks, and for the achievement and maintenance of a high standard of discipline." Their "technical skill, loyalty and devotion to duty contributed immeasurably to the present successful operation of the railway system on the Continent."

At present, a total of 8,547 miles of railroad in North France, Belgium, Holland and Germany are operated by American soldiers. Only 3,457 miles of this total are directly operated by the Army's railroaders, the remainder, principally in the rear areas, having been relinquished to French civilian operation under military supervision.

Railroad service over the lines from

Railroad service over the lines from Marseilles up the Rhone Valley, in support of the armies in that sector, is under the direction of the First Headquarters of the Transportation Corps' Military Railway Service, under the command of Brigadier General Carl R. Gray, Jr. Citations to the Military Railway Service also have been granted to railway troops in Italy, Iran and North Africa.

Water Treatment

(Continued from page 271)

assuring cleaner boilers, with less blowdown required. These advantages will justify the expenditure for the necessary equipment, such as large settling tanks, solution tanks proportioning equipment, etc.

Where sufficient savings are not produced to justify expenditures for lime-soda softeners, liquid chemical proportioners or by-pass feeders are employed. The chemical proportioners require housing for chemical solution tanks, proportioning equipment and chemical stock. The by-pass feeders, employing compressed chemical compounds, can be installed within the frost box or valve pit of water storage tanks and will need only housing for the chemical stock.

All treating facilities are arranged so that the prescribed chemical charges are made on a time basis. In certain plants recharging or the making up of new solutions may have to be done two or three times each 24 hr., while in smaller plants with less consumption, the chemical charge may have to be made only every other day. The chemical dosages are administered by men of different departments, whose regular duties necessitate their presence in the vicinity of the treating plants. Usually the lime-soda plants require the full time services of an employee, but at some plants only part-time services are required, depending upon their locations and the characteristics of the water.

The success of locomotive boiler water treatment depends upon the addition of the prescribed chemical dosages to all waters without interruption. This necessitates frequent checking of all water supplies, which is accomplished

by analyzing samples of raw and treated waters periodically, sent in to a control laboratory from all water treating plants. A further check is made by analyzing samples of locomotive boiler waters which are also sent in periodically to the control laboratory, as well as by analyzing the samples obtained by water service inspectors during their frequent visits to the various locomotive terminals and water treating plants. Analyses of the boiler water samples give the overall picture of treatment for each territory. If they disclose incorrect treatment, the respective territory is visited immediately by an inspector and corrective measures are prescribed. Uninterrupted treatment, therefore, depends upon the full co-Uninterrupted treatment, operation of all those involved directly, and upon full maintenance of the chemical proportioning equipment, as well as upon sufficient chemical stock to assure an uninterrupted supply.

Blow-Down Facilities

The impurities remaining in the boiler feed water as it enters the boiler are acted upon by the water treatment within the boilers to change their character from scale-forming to non-scale-forming material. Portions of these solids are precipitated as a sludge, while the dissolved solids, largely sodium compounds. continue to concentrate in the boiler water as feed water is added to make up for evaporation. If this process is allowed to continue without corrective action, the boiler water would eventually foam, causing delay to operation and high equipment maintenance costs. Therefore, an adequate system of blowdown becomes a necessary part of the water treatment program to eliminate these solids. It has been demonstrated that proper blow-down will remove sufficient sludge and dissolved solids to prevent foaming difficulties.

The larger part of the road blowdown on the New York Central is done by an "automatic continuous" blowdown arrangement. This arrangement consists of a small orifice whose water discharge from the boiler is controlled by an automatic valve actuated by the operation of the feed-water pump. quantity discharged is determined by the size of the orifice and the boiler pressure employed. This arrangement is supplemented by a manual, cab-operated blow-down on those divisions where more blow-down is required or when adverse water conditions arise. This combination blow-down arrangement is most ideal for locomotives traversing different territories for which the required blow-down will vary.

In conclusion, it might be added that the New York Central System has been fortunate in having complete locomotive boiler water treatment installed before World War II. The benefits therefrom have contributed to the increased utilization of its steam locomotives by keeping them out on the line, hauling passenger and freight trains, instead of being held out of service for boiler work.

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757th Railway battalion has repaired 3,000 freight cars and 750 locomotives

Vast amounts of supplies that have been reaching America's First, Third and Ninth Armies in their advance into German defenses have been hauled on rolling stock serviced by men of the 757th railway battalion, Headquarters, European Theater of Operations, has announced.

Arriving on the Continent last July 25, this Transportation Corps battalion, under the command of Maj. John W. Moe, of Minneapolis, Minn., formerly roundhouse foreman for the Chicago, Milwaukee, St. Paul & Pacific, was the first railway repair shop to be established in France, and only 10 per cent of its personnel had had civilian railroad experience.

Confronted on its first day by wrecked buildings and hundreds of damaged locomotives and freight cars, this battalion at once set about restoring order, and within six hours after the arrival operations were under way for repairing its first locomotive. To date it has turned out about 3,000 freight cars of Continental and American make, and more than 750 locomotives.

In addition to routine repairs, these army railroaders have, during their "spare time," converted 500 European freight cars into refrigerator cars, built from salvaged material two Army, hospital trains, improvised gasoline tank cars from German freight cars, and have fashioned the first church on wheels for Army personnel in

More Conventions Called Off

The dinner of the Traffic Club of New York, scheduled for February 21, was one of 75 additional voluntary cancellations of public gatherings announced January 26 by the Office of Defense Transportation. Such cancellations followed the "request" made by War Mobilizer Byrnes that gatherings of more than 50 persons should not be held, after February 1, except with permission from a War Committee on Conventions headed by O. D. T. Director Johnson

Other organizations named in the list were the National Aeronautic Association, American Mining Congress, National Canners Association, American Warehousemen's Association, Y. W. C. A., American Institute of Mining and Metallurgical Engineers, and the American Toy Fair, the latter scheduled to be held in New York from March 5 to 17.

In this connection Representative Gavin,

Republican of Pennsylvania, in an extension of remarks appearing in the Congressional Record of January 29 asserted that the "civilian government agencies are the worst violators" of the Byrnes "directive." "How can we expect the American people to cooperate when the government itself pays no attention to these matters that they say are necessary to the war effort?" the congressman asked. His comment was based on an account of a meeting at San Antonio, Tex., at which 1,500 representatives of rural electric co-operatives were said to have been present. Although the speaker 'wondered" if government permission was secured for this meeting, he indicated that it was held January 16 and 17, before the effective date of the convention permit

Would Call Off School Holidays

Pointing out that under ordinary conditions some 300,000 school, college and university students would be making vacation trips this spring, John W. Studebaker, United States commissioner of education, has announced his endorsement of a "request" from the Office of Defense Transportation that such vacations be canceled by institutions whose students would use intercity transportation facilities. Because of the load now carried by these agencies of travel, he expressed his conviction that parents and students would be willing to forego such trips at this time.

Former Railroader Coordinates Rail Activities in France

Capt. Radford G. DeGuire, of San Francisco, Cal., a veteran railroader with 26 years' service on the Southern Pacific, Great Northern and Denver & Rio Grande Western, and now in charge of the American Army railway liaison office at Gare St. Lazare station in Paris, in his new post has been beset by "a thousand and one questions" from civilians and soldiers alike. He calls his the "Continental Railway Information Office," though, in reality, his job is to co-ordinate American Army and French civilian operation of the French National Railways (this being what is known as "third phase" operation).

It is explained by Headquarters in the European Theater of Operations that "the phase territories are laid down because of their operational activity in relation to the Allied armies," and "third phase includes the rail lines that are now used sparsely by the American Army. These lines are run entirely by the French."

Whenever it becomes necessary for supply trains to pass into third-phase zones, it is up to Captain DeGuire's office to see that special priority is given them so that their movement will be as normal as in Army-operated "first-phase" territory.

What Big Problems Confront the RRS?

Capital supply and control of rates, say Fletcher and Henry

Judge R. V. Fletcher, vice-president in charge of research, Association of American Railroads, and Robert S. Henry, assistant to the president of the Association, were speakers at the January 28 session of the "Empire State Town Meeting," a Sunday afternoon radio program arranged by Union College, Schenectady, N. Y., and broadcast by station WGY. The program's subject was "What's Ahead for the Railroads?"

Speaking first, Colonel Henry stated that the question would not be difficult to answer if it were confined to the physical railroad itself, and its operations. He pointed out, however, that there are other aspects, including the "real question" as to whetherthere is to be continued investment of funds to provide better railroad plant and equipment.

Will Investment Revive?—"Continued investment in better transportation tools," he went on, "has been a major factor in the truly tremendous improvement in rail transportation in this generation.... The railroads of the United States are the creation of the investment of private funds." In this connection, Colonel Henry conceded that there had been some government aids such as land grants; but he insisted that "98 per cent of the investment in today's railroads represents the funds of private investors, voluntarily put into the railroads."

He contrasted this "unique" situation with that in most other fields of transport, where private investment provides only the moving vehicles, the permanent plant and ways being "almost wholly and exclusively the product of funds raised by private taxation."

Colonel Henry did not object to this, "where there is good economic reason" for such public outlays, but he did insist that those using public facilities for commercial purposes "should be expected to make suitable payment for their use—and a payment, moreover, which not only reimburses the taxpayers for expenditures made on their account, but also covers a proper contribution to the running of the schools, the administration of justice and the other general services of government."

Tax Money in the Canals—He gave some figures on the Eric Canal to illustrate his point that the principle of equitable payment for commercial use of public

facilities "is in many cases disregarded where transportation is concerned." If such inequities are corrected, he predicted, "there is no need to fear for the future of the railroads—for their future will be as good as the future of our country."

Judge Fletcher addressed himself to the questions of railroad research, and the need in the transportation industry for cooperative action, subject to public approval, on rate matters. In the former connection he first called attention to the "every-day research work of the railroads, an industry now more than 100 years old, as evidenced by their truly notable performance in this war."

He explained that the railroads are "sellers of transportation, performed in locomotives and cars purchased from manufacturers"; and that railroad research work "cannot be carried on exclusively in laboratories"—it must be performed "on the tracks, in the yards, in terminals throughout the length and breadth of the nation."

Research Is Extensive-Thus, as Judge Fletcher put it, "every workman on railroad tracks, every mechanic in every railroad shop, every man engaged in operating trains, every clerical employee, and every railroad officer whatever his responsibility is a research worker, engaged in observation and experimentation, testing daily all methods and appliances in use. He went on to mention the fact that many railroads have research staffs; the research work of A. A. R. divisions; and the studies of the Railroad Committee for the Study of Transportation of which he is general chairman. Finally, he pointed out that the A. A. R. recently established its Department of Research to carry on the committee's work, and "perhaps to organize a competent technical research staff for the study of engineering and mechanical features.

As the A. A. R. vice-president summed up this subject, the railroads approach the critical post-war period "with confidence in their ability to continue as useful and indeed indispensable servants of industry." They are "on their toes, so to speak, anxious to serve, with a definite program for the future, both in the fields of freight and passenger transportation."

What Rate-Making Process?-On the matter of rate-making procedures, Judge Fletcher said that the cooperative method has proven "eminently satisfactory to the shipping and traveling public, to the Interstate Commerce Commission, and to the Office of Defense Transportation. Only the anti-trust division of the Department of Justice -has taken exception to this approved and sensible method of procedure." He went on to point out that the procedures now under fire do not give railroads the power to prescribe rates, adding, however, that to serve the public efficiently the carriers "must have the privilege, subject to public approval, to confer freely as to rates and practices essential to cooperative effort. Otherwise, the hands of the clock of progress and experience will be turned back, not merely to the horse and buggy days but to a far more primitive epoch."

Noting that Congress and the public have been "properly" concerned with the welfare of small business, Judge Fletcher warned that, if each railroad must operate independently in the matter of proposing rates, "large business enterprises controlling enormous volumes of traffic will be able to use their economic power to secure freight rates which will give them an undue advantage in their struggle for business with smaller competitors." The conference method of considering rates, he added, "is not productive of monopoly, but quite the contrary."

Cut 1945 Lake Coal Program

Wartime measures for replenishing the Great Lakes coal docks with next winter's fuel supplies during the 1945 season of navigation have been announced by Solid Fuels Administrator Ickes.

Taking into account curtailments that present trends indicate must be made in fuel consumption, a new regulation has been issued, which prohibits shippers from making contracts that would provide the docks with more than 80 per cent of the amount of certain eastern household heating coals received during the 1944 season.

A ceiling of 100 per cent of next season's requirements was set on the making of contracts for shipments of industrial coals, however. These specific limitations in the tonnage that may be contracted for lake

shipment represent a significant departure from the program of last year, when contracting was not restricted by quota or standards set up in advance. The action is expected to reduce the necessity for substantials cutbacks in contracts.

Bingham & Garfield Taken Over by Government

President Roosevelt on January 25 issued an order directing the Secretary of War to take over for operation the Bingham & Garfield after operations had been tied up by a strike which became effective at 12:01 a. m. on that day. The strike was ordered following rejection by the employees, represented by the Brotherhood of Locomotive Firemen & Enginemen, of an emergency board report which found no need for the addition of a "fireman" to the crews of B. & G. trolley-electric locomotives, heretofore manned by engineers only.

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Members of the emergency board which made the report adverse to the B. of L. F. & E. demand were: Chairman Robert F. Mitchell, former judge of the Iowa Supreme Court; Walter C. Clephane, Washington, D. C., attorney; and Dr. A. G. Crane, former president of the University of Wyoming. The board's report was noted in the Railway Age of December 9, 1944, page 895.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since January 22, and which are of interest to railways:

Class B Products—W. P. B. ruled that manufacturers who are behind schedule in making class B products under controlled materials plan procedures may not make up such deficiencies in any but the succeeding quarter for which such production has been authorized, and then only up to 10 per cent of the total production that has been authorized. The rule is set forth in an amendment to CMPR-1.

Lumber—Lumber production in November, estimated at 2,467,973,000 f. b. m. was 17.2 per cent lower than that for November 1943, and production for the eleven months' period, January through November 1944, totaling 30,334,985,000 f. b. m. was 5.1 per cent below that for the comparable period in 1943.

Production in November 1944, failed to recover from the downward trend which began in September. The decline of 9.6 per cent from October to November approximated the normal seasonal decline for that season of the year. General drop in production is due to man-power and equipment shortages. In November, production was further curtailed in the West by bad weather and the Thanksgiving holiday; in the South, contributing factors to lowered production were unfavorable weather, withdrawal of labor for farm and other work, and unsettled hardwood markets.

Softwoods accounted for 1,918,072,000 f. b. m. of November production, a decline of 8.9 per cent from October and of 16.2 per cent from November 1943. Hardwoods accounted for 549,-901,000 f. b. m. of November 1944 production. a drop of 11.9 per cent from October and of 20.2 per cent from November, 1943. Total East production in November, 1944, was 1,368,979,000 f. b. m. 21.6 per cent less than that for November of the previous year. Total West production was 1,098,994,000 f. b. m., a 10.8 per cent decline from November, 1943.

Paints and Finishes—Supplies of raw materials required for industrial finishes are not expected to improve during the next few months, members of the Paint, Varnish and Lacquer Industry Advisory Committee were told at a recent meeting. Lacquer solvents, generally, with the possible exception of ethyl acetate, will remain critical and further reductions in civilian allocations may become necessary. Resin modified

phenolics have definitely tightened in the last 60 days, and will remain in short supply because of the tight position of phenol and formaldehyde. Drastic allocation cuts may become necessary almost immediately. Urea and melamine aldehyde resins have had to be denied for many civilian uses because of the very tight position of butyl alcohol, as well as formaldehyde.

In general, the over-all pigment situation has deteriorated somewhat in the last few mouths.

In general, the over-all pigment situation has deteriorated somewhat in the last few months. The drastic shortage of white lead is expected to throw an additional load on other white pigments which already are in short supply. Synthetic yellow iron oxide is expected to be placed on allocation because of military demands. Chrome pigments are critical with increasing military requirements; expected increased production has not occurred.

PR-25—Although PR-25, the "spot authorization" order, has not been revoked, its use has been limited drastically by military needs, and further activity under it must be sharply restricted until the present tight production situation is relieved. Summarizing the current situation W. P. B. pointed out: (1) The allotments and authorizations that have already been granted have not been canceled. (2) However, because of shortages, it is unlikely that mill orders for steel, copper in most forms and aluminum sheet placed under PR-25 will be filled during the first quarter and perhaps not during the second. (3) Spot authorizations still can be approved to utilize any amount of idle and excess material provided the applicant has available facilities and labor. No new allotments will be made of copper wire mill or brass mill products. New allotments of steel will be limited to not more than 10 tons of carbon and two tons of alloy steel to "piece in" idle and excess materials. No limit has been placed yet on new allotments of aluminum.

Steel Sheet—Drum sheet steel is becoming more critical and some delays in deliveries from the mills may be expected in the first and second quarters of this year. Man-power shortages and absenteeism are contributing factors in limiting production. The Steel Shipping Container Industry Advisory Committee recommended that Steel Drum Order L-197, as amended January 18, be retained indefinitely.

Tin—All outstanding authorizations for the use of tin that existed before September 1, 1944, have been canceled by the issuance of direction No. 1 to M-43.

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GENERAL NEWS

Upholds I. C. C. on Seatrain Per Diem

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Jurisdiction runs to vessels moving between U. S. ports, says Supreme Court

The Supreme Court of the United States has upheld the Interstate Commerce Commission finding that railroads participating in through routes with Seatrain Lines, Inc., must interchange cars with that carrier and can collect from Seatrain only the regular per diem rate thereon and that "only for such period as the cars are in its actual possession." The opinion by Justice Black was in United States vs. Pennsylvania Railroad and the companion cross suit, Pennsylvania Railroad vs. U. S. The dissent of Justice Roberts was noted.

Seatrain Gets Same Rights as a R. R.

—The operation by Seatrain, which has been suspended since hostilities began, was between Hoboken, N. J., and Belle Chasse, La., via Havana, Cuba, and its vessels were equipped to carry freight cars between these points, so that no transfer of lading was required at the point of rail and water interchange.

By commission order, railroads connecting with Seatrain had established joint railwater routes, but a number of them had objected both to interchanging cars with the water carrier in the Belle Chasse-Hoboken traffic and to the commission's finding that the regular \$1 per diem rate then in effect would be a reasonable payment on such cars for such time only as they were in Seatrain's actual possession. The federal district court, as noted in Railway Age of October 16, 1943, page 620, set aside the commission's order through an injunction specifically grounded on Seatrain's operation of its vessels outside the territorial waters of the United States.

The Supreme Court opinion discussed in turn three arguments advanced by the railroads against the commission's action. First, they contended that the power granted the commission to require establishment of through rail-water routes does not run to interchange of cars between rail and water carriers. In the absence of a specific provision for such interchange in the Transportation Act of 1940, the court nevertheless held that the national transportation policy as set forth by Congress in that statute contemplated a "completely integrated interstate regulatory system over motor, railroad and water carriers . . . to the end that interstate commerce may move without interruption or delay." Therefore, it concluded, since a rail-water route with Seatrain cannot function without interchange of cars, the commission's power to require establishment of such a through route would be "wholly fruitless" without correlative power to require the interchange.

Foreign Haul No Deterrent—The second argument, based on the point on which the three-judge lower court had found for the railroads, and against the commission, grew out of the fact that Seatrain's vessels moved beyond the territorial waters of the United States in passing from Hoboken to Belle Chasse, whereas both part I and part III of the 1940 act are limited by a provision to the effect that they apply only to transportation that takes place within the United States.

On the other hand, the Supreme Court found, Congress "unequivocably" authorized the commission to establish joint railwater routes, and by section 302(i)(2) made that power applicable to such routes "from a place in the United States to another place in the United States." Reversing the lower court, it held that "there is therefore nothing in the act to deny the commission the same power over interstate water-rail transportation which passes through foreign waters as . . . it enjoys where the transit is wholly within the territorial limits of the United States."

Taking up the reasonableness of the \$1 per day charge for cars in Seatrain's possession, the court merely said that the record showed that the Commission, which was possessed of wide experience in car hire proceedings, had based its determination of facts in this instance on "substantial evidentiary support," and so sustained its order, pointing out, however, that the order did not foreclose future consideration of the car hire rate, or of rate divisions between Seatrain and the railroads.

Milwaukee Contributes 75-Year Old Papers to Scrap Drive

Twenty-five tons of high grade paper, an accumulation of more than 75 years of cancelled securities of predecessor companies of the Chicago, Milwaukee, St. Paul & Pacific, are being contributed by that railroad to the waste paper salvage campaign. The Interstate Commerce Commission formerly required that cancelled securities be burned—an authorized cremation officer to witness the burning and make affidavit that ashes alone remained. Mindful of the war need of paper the Commission granted the road permission to shred and macerate the cancelled securities.

The cancelled securities, including those of the Milwaukee & Mississippi, the original line which began carrying passengers in and out of Milwaukee, Wis., in 1850, have been stored in the road's Fullerton avenue office building at Fullerton and Southport avenues in Chicago.

Roads Lose Battle on Through Routes

Supreme Court upholds shorthauling order based on shippers' interest

The Interstate Commerce Commission was not in error in construing the language of the Transportation Act of 1940 as authorizing it to require a carrier to short-haul itself out of consideration for shippers' interests, the Supreme Court of the United States held in an opinion delivered January 29 by Justice Roberts. There were no dissents.

Transit Rates Restricted—The case before the court—Pennsylvania Railroad vs. U. S.—grew out of the commission's finding in its No. 28647 or Stickell vs. Alton proceedings, 255 I. C. C. 333, reported in Railway Age of April 3, 1943, page 686. As there noted, the specific situation was one in which a mixed feed manufacturer located at Hagerstown, Md., processed grains received from central western territory and had the product transported to points in the so-called Del-Mar-Va peninsula on a joint through rate with transit arrangements.

The complaint to the commission was based on a restriction imposed by the Pennsylvania (the only road serving that destination area east of Chesapeake Bay) on transit arrangements at Hagerstown, limiting them to traffic originated by it at western trunk line termini or received from connections at or west of such termini. The effect of this limitation was to require Stickell to use the Pennsylvania's route into Hagerstown, via a branch line from Harrisburg, Pa., or Enola, which involved a charge of 41/2 cents per 100 lb. for the out-of-line haul, even though Hagerstown also is served by the Western Maryland and by a branch of the Baltimore & Ohio. (The latter-named carrier, however, supported the Pennsylvania's position before the commission.)

Taking the Transportation Act of 1940's authority to establish through routes when "needed in order to provide adequate, and more efficient or more economic, transportation" as the basis of its decision, Division 2 of the commission then prescribed through routes short-hauling the Pennsylvania, since they deprived it of the haul from points west of Pittsburgh by including the Western Maryland instead, leaving the Pennsylvania only that part of the haul to the Del-Mar-Va peninsula which was east of its W. M. connection at York, Pa., or Fulton Junction (Baltimore) Md.

(Continued on page 285)

I. C. C. Bureau Issues Study of Bus Expenses

Average is just over 26 cents per bus-mile for large intercity vehicles

Nationwide average operating costs of large intercity buses with gasoline motors range from 26.08 cents to 26.81 cents per bus-mile, depending upon the age of the vehicle, according to a study issued last week by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. Operating costs of diesel buses are shown to be about one cent per mile lower.

Figures for 1940-The study, entitled "Operating Costs of Intercity Motor Carriers of Passengers," is Statement No. 452 of the Bureau. It is a document of 105 mimeographed sheets carrying the usual disclaimer that it is issued "as information" and "has not been considered or adopted" by the commission. The preface by W. H. S. Stevens, director of the Bureau, states that Warner Tufts, formerly economic analyst of the Bureau of Motor Carriers, was responsible for the preparation of the study; and that it was supervised by C. S. Morgan, chief carrier research analyst of the Bureau of Transport Economics and Statistics, who also planned the collection of the data in collaboration with E. V. Breitenbach, formerly chief of the Section of Accounts of the Bureau of Motor Carriers.

As Dr. Morgan's foreword points out, the study's averages were based on expenses incurred in November, 1940, by 51 class I motor carriers of passengers engaged wholly or preponderantly in intercity service. The 4,378 buses studied constituted 73 per cent of the vehicles used at the end of 1940 by all class I intercity motor carriers of passengers, and all geographical regions were represented in the study.

Variation with Age—The bus-mile cost figures are set up by regions, and by weights and ages of vehicles. The "all-regions" figure for a one-year-old gasoline bus of 30,000 lb. "usual maximum gross weight" is 26.54 cents. The figure for an 11-year-old bus of the same weight is 26.08 cents, while that for a three-year-old is 26.81, the most expensive age shown. The range on one-year-olds is from 7.7 cents per bus-mile for a vehicle of 5,000 lb. to the 26.54 cents noted above for the 30,000 lb. vehicle. The figure for a one-year-old of 25,000 lb. is 22.97 cents.

Highest operating costs for one-year-olds of 30,000 lb. weight is the 29.33 cents shown for region 3, embracing Virginia, North Carolina, South Carolina, Georgia and Florida. Lowest was the 24.53 cents reported for region 7, embracing Arkansas, Louisiana, Oklahoma, and Texas. Location of the principal place of business determined the assignment of carriers to particular regions, and in that connection it is pointed out that many buses are operated over long distances and "quite beyond such regional boundaries." Thus "often, equipment is repaired, fuel is purchased,

and license fees and taxes are paid at costs different from the region in which a carrier has its home office." However, "no other basis of assignment of the returns was available."

Weight Is Biggest Cost Factor—Of the effect of various factors on the cost figures, the study's summary had this to say: "Though vehicle age affects total operating expenses only slightly and locale of operation affects it very much more, the factor of gross vehicle weight is of predominant importance as an influence. More specifically, vehicle age may be responsible for a range in total operating expenses of the order of one cent per bus-mile, regional ownership may account for a range of approximately five cents per bus-mile, while vehicle weight results in differences approximating 20 cents per bus-mile."

On the seat-mile basis, the average oneyear-old bus of 30,000-lb. weight and a seating capacity of 43.5 passengers showed an "all regions" cost per seat-mile of 6.1 mills. The figure for a 25,000-lb. bus with a seating capacity of 36.25 passengers, was 6.3 mills; while that for the 5,000-lb. vehicle with a seating capacity of 7.25 passengers was 1.1 cents per seat-mile. Comment in the study notes that the range in expenses per bus-mile "is of less significance than the range in expenses per seatmile, because seat-miles are a closer measure of the relative revenue producing potentialities of vehicles of different passenger seating capacity."

Diesel Bus Costs—As noted at the outset, the overall averages for Diesel buses are about one cent per bus-mile lower than those for gasoline buses. Thus the study indicates that a one-year-old diesel of 30,000-lb. usual maximum weight would operate for 25.12 cents per bus-mile; while a 25,000-lb. one-year-old would operate for 21.71 cents per bus-mile. These are "all regions" averages. Seat-mile costs for Diesels are not given.

Aside from its part I, which tabulates, charts, and comments on the results summarized in the foregoing, the study has other parts discussing the nature of the sample and basic data; analyzing the effects of geographic region and weight, age, and annual mileage of vehicles on items of expense; and embodying suggestions for future analyses of bus operating costs.

Equipment Depreciation Rates

Equipment depreciation rates for the Boston & Maine are among those prescribed by the Interstate Commerce Commission in its latest series of sub-orders and modifications of previous sub-orders in the general proceeding, Depreciation Rates for Equipment of Steam Railroad Companies. The B. & M. rates are prescribed in a sub-order which is a modification of a previous one, and it is made retroactive to January 1, 1944, at the option of the carrier.

The rates are: Steam Locomotives, 3.24 per cent; other locomotives, 3.4 per cent; freight-train cars, 3.07 per cent; passenger-train cars, 2.76 per cent; work equipment, 4.1 per cent; miscellaneous equipment, 16.76 per cent.

Hearings on Railroad Unions' Security Bill

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House committee considers plan to liberalize retirement and unemployment acts

House interstate commerce committee hearings on the Railway Labor Executives' Association's program for liberalizing the Railroad Retirement Act and Railroad Unemployment Insurance Act got under way on January 31 when D. B. Robertson, president of the Brotherhood of Locomotive Firemen & Enginemen, made a presentation in support of the program and Murray W. Latimer, chairman of the Railroad Retirement Board, began his detailed explanation of retirement and unemployment insurance act amendment which would be involved.

The liberalizing amendments are embodied in H. R. 1362, sponsored by Representative Crosser, Democrat of Ohio, the bill now before the House committee; and in S. 293 introduced in the Senate by Senators Wheeler of Montana and Wagner of New York, Democrats. As noted in the Railway Age of January 27, page 248, President Roosevelt last week sent letters to Chairman Lea of the House committee and Mr. Wheeler, who is chairman of the Senate committee on interstate commerce, urging prompt hearings on the bills, the President being "heartily in favor" of their objectives.

The labor organizations' effort to put the program over last year was stalled when the House committee voted on August 30, 1944, not to resume hearings which were suspended after May and June sessions at which Mr. Latimer had explained the previous Crosser bill. The latter was a proposed Railroad Social Insurance Act which would have embodied the present retirement and unemployment acts and the liberalizing amendment. As Mr. Robertson explained, this codification plan has now been dropped, only the liberalizing amendments being proposed in H. R. 1362.

B. of R. T. Not Included-The B. of L. F. & E. president appeared before the committee as chairman of a Railway Labor Executives' Association committee "charged with the duty of studying the operation" of the retirement, unemployment insurance, and carriers taxing acts, and "making recommendations for such changes therein as in the light of experience seem desirable and feasible." Reading a list of the 19 organizations comprising R. L. E. A.'s membership, Mr. Robertson asserted that they represent "about 80 per cent of the railroad workers," and that they are unanimous in supporting the bill. The Brotherhood of Railroad Trainmen is not a member of R. L. E. A.; and its president, A. F. Whitney, is not among the bill's sup-

Aside from his general arguments in support of more liberal retirement and unemployment benefits for railroad employees, Mr. Robertson listed the more important differences between the amendments proposed in H. R. 1362 and those embodied

in the bill which failed of enactment last year. Among such changes is the proposed increase from \$4 per day to \$5 per day in the maximum unemployment benefit. Benefits being payable for 10 days of unemployment in a period of 14 consecutive days of unemployment, the maximum payment for a two-week period would become \$50 instead of \$40.

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A "Major" Bill—Another change from the previous bill deletes provisions which would have disqualified applicants for sickness benefits who "wilfully refuse to follow the reasonable instructions of their doctors." The proposed addition of sickness and maternity benefits to the Unemployment Insurance Act would be a major change from the present law. Later on, Mr. Latimer, who is, of course, in favor of the bill, called it a "major piece of social insurance legislation."

Meanwhile, Mr. Robertson completed his listing of departures from the 1944 bill, and proceeded to outline what he regarded as the important changes which H. R. 1362 would make in existing law. In this connection, the B. of L. F. & E. president first discussed the Retirement Act's survivorbenefit provisions, explaining those of the present law and pointing out that only two per cent of the annuitants have elected to take lower annuities for themselves and thereby provide annuities for their surviving wives or husbands.

H. R. 1362, as Mr. Robertson explained it, adopts in general the Social Security Act, formula for survivor annuities, providing, however, larger benefits than the social security system by approximately 25 per cent. The latter is because R.L.E.A. thinks social-security benefits are too low, and because the railroad employees pay "substantially higher taxes" than those paid under social-security.

Benefits for the Disabled-The Retirement Act's present benefits for permanent and total disability require that the employee involved must have completed 30 years of service, or, have attained the age of 60 years; and that he must be permanently and totally disabled for regular employment for hire. H. R. 1362 proposes to make totally and permanently disabled persons eligible for an annuity after 10 years of service. It also proposes to take care of people who have become disabled in the sense that they are no longer able to pass the physical examinations for their regular Such an employee would become eligible for an annuity after 20 years of service. The minimum annuity provisions would be liberalized to fix the minimum annuity at \$3 a month for each year of service (with a ceiling of \$50 a month), or the average monthly compensation at the time of retirement, whichever is lower.

Turning to the proposed Unemployment Insurance Act amendments, Mr. Robertson explained that the sickness and maternity benefits they propose would be the same as if the beneficiaries had been unemployed for a like period. In addition to the increase in maximum unemployment benefits from \$4 to \$5 per day, the bill would extend the maximum duration of unemployment benefits in any one year from 100 days to 130 days, i. e., from 20 weeks to 26 weeks of five benefit days each.

Britain Can't Afford Long-Haul Trucking

"Post-war, I can see no justification for long-distance truck transport. It must be borne in mind that nationally, after this war, we are going to be very much poorer. . We shall not be able to afford the luxury of moving goods up and down the country at high speed . . for what has, in fact, amounted to no more than a whim. . . . Whatever toes I may tread on, I must say that undoubtedly the fullest use will have to be made of the network of railways and canals. Road services will be auxiliary to the railway and canal services from railhead and canal ports. . . There cannot be any commodity which necessitates a long-distance truck haul from, we will say, Liverpool to London, either on account of its perishable nature or on account of its urgency of delivery.

"Routine loads such as ironmongery, soap, etc., need no such method of distribution, and as, prewar, we were prepared to accept rail delivery for by far the greatest tonnage of commodities necessary to our existence, there seems to be no cause for a few privileged people to make excessive profits, and be a charge against the nation by wildly rushing uncoordinated services up and down the roads of the country, only increasing the clamor for better roads, when the existing roads, had they less traffic to bear, might in many cases, meet demands."

-From an Address by J. A. Walton, Member Institute of Automobile Engineers, to the Industrial Transport Assn. (British Counterpart of the N. I. T. League), Reported in Modern Transport (London).

The proposed amendments to the acts' provisions, Mr. Robertson coverage pointed out, would bring in employees of freight forwarders and employees of all railroad subsidiaries engaged in highway freight or passenger services. As Mr. Latimer explained later, the present law brings in employees of railroad subsidiaries operating bus services supplemental to railroad operations. Generally the new coverage provisions would seem designed to resolve all doubts in borderline cases (such as those involving employees of outside contractors doing work for railroads) in favor of past Retirement Board rulings. Railroad subsidiaries operating as common carriers by water or air, however, would be specifically exempt.

Proposed Tax Increases—Finally, Mr. Robertson discussed the bill's proposals to increase the payroll taxes and to make the Carriers Taxing Act Title II of the Railroad Retirement Act with the Retirement Board instead of the Bureau of Internal Revenue collecting the retirement taxes. R. B. now collects the taxes under the Unemployment Insurance Act. Under the bill, retirement taxes, which are payable half by the carriers and half by the employees, would be increased five per cent

-3.5 per cent being designed to provide for the additional benefits, and 1.5 per cent to take care of the present situation wherein the taxes are not adequate on an actuarial basis to support the existing benefits.

The law at present provides that the retirement taxes (now 61/2 per cent of payroll) will rise to a maximum of 71/2 per cent: under the bill the tax would become 111/2 per cent on June 30, and rise to a maximum of 121/2 per cent after December 31, 1951. As Mr. Robertson put it, H.R. 1362 was written on the assumption that it would pass in the first half of this vear. In addition to their half of the retirement taxes, the railroads have to pay the entire unemployment insurance levy of three per cent of payroll. The bill proposes no increase in this unemployment tax, for it has already produced a fabulous reserve, which is expected to support the proposed new benefits as well as the present

Latimer Explains—R. R. B. Chairman Latimer said that he was speaking for himself only when he proceeded to outline in considerable detail the provisions of the bill. He called the survivor benefit provisions the most important of the Retirement Act amendments proposed, and he mentioned the provision to give women employees a full annuity at 60 years of age if they have 30 years of service. Also, he pointed out that the bill would provide for permanent appropriation to the retirement account of all funds collected under the retirement taxes. Annual appropriations are now made.

Discussing the broader coverage provisions, Mr. Latimer said that the board has already held one big forwarder to be a railroad subsidiary subject to the act; and it has before it an examiner's report recommending a like holding with respect to another big forwarder. He pointed out that there is only one other forwarder (not a railroad affiliate) of comparable size. Inclusion of all forwarders would add some 15,000 to 18,000 employes to the present coverage, Mr. Latimer said. With respect to the inclusion of railroad subsidiaries operating trucking services, he saw no "logical reason" why they should be out when the bus subsidiaries are in. The present situation produces "complications."

Turning to the liberalized prior service provisions of the bill, Mr. Latimer explained that at present credit for service prior to the passage of the Retirement Act is given only to those who were employed or in an employment relationship to the railroad industry on August 29, 1935. The bill proposes to credit prior service to any employee who after August 30, 1935, and before January 1, 1945, has rendered service for six months. Meanwhile the prior service credits which they now have will be taken away from employees who have not been in railroad service since August 29, 1935. With respect to these former employees, Mr. Latimer said that many of them are not aware that they have prior service credits and would not apply for an annuity.

The R. R. B. chairman was still in the midst of his explanation of the bill when this issue went to press. The railroad presentation will come at a later stage of the hearings. Meanwhile, the Association of American Railroads has issued a pamphlet analyzing H. R. 1362 and setting forth "reasons why the bill should not be passed." The pamphlet characterized the bill generally as "a threat both to the future of the railroad industry in a competitive world and to the future of the railroad retirement system upon which all railroad men rely."

Flanged Wheel on Steel Rail Called Symbol of Railway

The "flanged wheel on the steel rail," and not the "dramatic steam locomotive or the fast passenger train," recently was held by J. F. Pringle, vice-president and general manager of the Canadian National's central region, as the "symbol" of the railway-instrumental in Canada's growth and a basis for its future prosperity. The mechanical arrangement portrayed by this symbol, he said, "has made it possible for the railways to perform service the year round and provide low-cost transportation so essential to industry. steel wheel on the steel rail alone combines the flexibility of separate carrying units that can be distributed for loading and unloading and later assembled for mass movement.

In this address to the Granby (Que.) Board of Trade, on January 23, Mr. Pringle also expressed the view that prospects for "after-the-war business" were bright, and drew attention to Canada's war-time place as third trading nation of the world. "One of the most important factors and one generally overlooked, is low-cost transportation," the speaker stated, adding that "we enjoy the lowest freight rates in the world and the only way these can be maintained is to have prosperous railways, earning a comfortable margin over operating expenses, so that the properties may be improved and the mass transportation so necessary to export trade provided." "The railways," he concluded, "must be given a fair show and kept prosperous in the interests of the country as a whole."

Elkins Act Violation

According to a notice made public by W. P. Bartel, secretary, the Interstate Commerce Commission has been informed that on January 26 the Baltimore & Ohio entered a plea of guilty in the federal court at Baltimore, Md., to an information in two counts charging it with violation of section 1 of the Elkins Act. A fine of \$1,000 was assessed on each count.

The information charged that the road had granted concessions to a shipper at Curtis Bay, Md., through failure to collect demurrage charges within the period prescribed by commission regulations.

L. B. Sherman, Retired Vice-President of Simmons-Boardman, Dies

Lucius (Lou) Booth Sherman, who retired on pension as senior vice-president of the Simmons-Boardman Publishing Corporation at Chicago early in 1941, died in Presbyterian Hospital, Chicago, on January 24, as was briefly noted in last week's issue. Mr. Sherman, who would have been 82 years of age in April, had been ailing for several months and entered the hospital in December. He died in his sleep.

Throughout his many years of activity, including more than 50 years' association with the railroads and the railway supply industry, Mr. Sherman, because of his personal qualities, was one of the most widely known and popular men in the business paper publishing and railway equipment and supply fields. During his career, Mr. Sherman took an active part in the Railway Manufacturers Supply Association and the National Railway Appliances Association, serving as a member of the executive committee of the former and a director of the latter for a number of years. In 1925 he was one of the American Railway Association's delegates to the International Railway Congress at London, England.

Mr. Sherman was born in Chicago on April 18, 1863, and after attending the University of Chicago, he immediately chose the selling phase of the publishing business for his career. In 1884 he entered the employ of the Railway Review and soon after rose to business manager of that publication. Later he resigned to become associated with the Railroad Gazette and on November 1, 1901, was promoted to western manager of that publication. In 1908, the Railway Age and the

Railroad Gazette were merged under the ownership of Railroad Gazette, Inc., which was succeeded in 1911 by the Simmons-Boardman Publishing Company, of which Mr. Sherman became a vice-president. In 1928, when the Simmons-Boardman Publishing Corporation was organized to take over the Railway Age, other railway publications, Marine Engineering, American Builder, and other papers in the building field, Mr. Sherman was elected vice-president of the new company, which position he held until his retirement.



L. B. Sherman

Per Diem Rate Increase Becomes Effective

The freight car per diem rate increase from \$1 to \$1.15 became effective on February 1 after a month's delay pending clearance of the matter with the Office of Price Administration. The increase was originally scheduled to become effective January 1, but was postponed while an application was filed with O.P.A. in order to avoid possible conflict with the Maximum Price Regulation.

O.P.A. ruled that the regulation did not apply to the increase Meanwhile, as noted in the *Railway Age* of January 20, page 206, the American Short Line Railroad Association has asked the Interstate Commerce Commission to institute an investigation of the matter.

U. P. Uses Sterilizing Lamps to Protect Patrons' Health

In an effort to prevent the spread of colds and other contagious diseases, the Union Pacific is installing ultra-violet lamps in the bar cars of the City of Denver and plans to introduce them eventually on all of its streamliners. The lamps are arranged so that the rays are directed upon racks of washed and dried bar glasses. Ultra-violet lamps have also been placed over work tables in the commissary at Omaha, Neb., where from 1,200 to 2,000 box lunches and 12,000 additional sandwiches are prepared daily.

These innovations for the protection of passengers, according to H. I. Norris, assistant to the manager of the dining car and hotel department, follow experiments with the lamps in the refrigerators on some of the streamliners and in meat aging refrigerators at Omaha to prevent waste and spoilage of food due to the growth of mold.

"In pre-war days when we featured broiled steaks on our dining car menus," Mr. Norris said, "the sterilizing lamps in the aging boxes saved about \$500 a month by preventing shrinkage of beef loins and ribs. We estimate that we save from \$150 to \$400 a month on fruits and vegetables through the prevention of mold and spoilage."

Avoid Anonymity, New Haven Asks Employee Suggesters

The Employees' Suggestion System, in operation on the New York, New Haven & Hartford since September 1 last, and successful to the degree that already 4,345 suggestions have been received, 301 acted upon, and awards made to the amount of \$3,380, nevertheless has been subject to some misunderstanding upon the part of employees, Chairman S. A. Boyer of the General Suggestion committee points out in the January issue of "Along the Line," employee magazine.

While it is permissible for suggestions on equipment, operation and methods to be submitted anonymously, once they have been accepted by the committee, and notice

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to that effect is posted on the weekly suggestion bulletin board, some employees, he said, have displayed a "reluctance" to contact the committee and reveal their identity. It is not the plan of the committee to remove an employee from his job, or subject him to "embarrassment" because of his suggestion, Mr. Boyer stated. Rather, it is necessary occasionally for the suggester and the committee to get together to aid the employee in "clarifying is idea," a step which in turn may result in his receiving an award. The committee urges, too, that employees dissatisfied with the decision of the committee not hesitate to go into the matter more fully with the suggestion system secretary.

Two recent award recipients were George S. Hornibrook, assistant foreman, Van Nest shops, who proposed a lateral gage for drivers, and Joseph McLaughlin, a caller at Oak Point, who received \$7.50 for suggesting that a ladder be employed to make

his job safer.

The committee is hopeful that "to the mutual advantage of the employees and the railroad" there will be a "constant flow of

Would Condemn Rates Based on Aggregates of Tonnage

Examiner T. Leo Haden has recommended in a proposed report that the Interstate Commerce Commission condemn forwarder rates conditioned upon aggregates of tonnage. The proposed report is in No. 28896, an investigation instituted by the commission's Division 3 on its own motion.

At issue are certain rates published by C. E. Anderson, doing business as Western Freight Association, based upon the aggregate amount of tonnage furnished during the 12 months period beginning August 1 of each year. The examiner found that the rates are not materially different from charges which have been found unlawful in previous decisions of the commission. The fact that they were published for several years prior to the enactment of part IV of the Interstate Commerce Act affords no reason why they should be continued, if shown to be unlawful, he said.

Interveners in the proceeding include several large forwarding companies who opposed "the principle of volume rates."

R. & L. H. S. Bulletin Features A. J. Stevens Biography

The biography of Andrew Jackson Stevens, famed railroader of a half-century ago, is featured in Bulletin No. 65 of the Railway & Locomotive Historical Society, Inc., Boston, Mass. Mr. Stevens served for a number of years as general master mechanic of the Central Pacific, and when he died in 1888 a group of his associates raised money to erect a statue in his memory. This statue still stands in the City Plaza in Sacramento. Mr. Stevens is best remembered among the railroad fraternity for the valves and valve gear that he designed for ocomotives, but he is also credited with a number of other railroad inventions, some of which were patented and used.

A large part of the article is devoted to a description of these valves and valve gear and other inventions. Drawings are included as well as a list of the locomotives

equipped with the valve gear. Other articles include: selected items from the minute book of the Galena & Chicago Union; history of the Denver, Boulder & Western; Louisa Railroad-1836-1850; Virginia Central Railroad-1850-1868; the Carrollton Railroad; a trip to the World's Fair (1893); some railroad landmarks of New York City; and the numbering on the "Pennsy." An index of the material appearing in Bulletins 63 to 65 is also in-

Freight Car Loading

Loadings of revenue freight for the week ended January 27 totaled 758,870 cars, the Association of American Railroads announced on February 1. This was a decrease of 18,450 cars or 2.4 per cent below the preceding week, and a decrease of 52,020 cars or 6.4 per cent below the corresponding week last year, but an increase of 24,200 cars or 3.3 per cent above the comparable 1943 week.

Loading of revenue freight for the week ended January 20 totaled 777,320 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., fol-

Revenue Freight Car Loading

For the Week	Ended Sat	urday, Janu	ary 20
District	1945	1944	1943
Eastern Allegheny Pocahontas Southern Northwestern Central Western Southwestern	146,552 164,981 54,044 126,406 85,486 127,941 71,910	157,912 171,732 55,072 121,466 92,317 128,235 71,916	140,735 155,965 52,395 119,387 66,969 102,730 65,113
Total Western Districts	285,337	292,468	234,812
Total All Roads	777,320	798,650	703,294
Commodities Grain and grain products Live stock Coal Coke Forest products Ore Merchandise Lc.l. Miscellaneous	46,034 15,414 172,434 15,135 39,109 11,905 97,847 379,442	58,857 16,164 181,898 15,410 43,360 14,363 101,009 367,589	45,284 11,483 164,046 15,136 33,706 13,559 84,530 335,550
January 20 January 13 January 6 December 30 December 23	777,320 782,387 682,967	798,650 779,531 769,629 584,757 762,449	703,294 755,498 717,176 643,444 641,036
Cumulativa Total			

Cumulative Total, 3 weeks 2,242,674 2,347,810 2,175,968

In Canada.—Carloadings for the week ended January 20 totaled 65,404 as compared with 65,017 for the previous week and 70,106 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

Total for	Cana	da		Total Cars Loaded	Total Cars Rec'd from Connections
January January January	13,	1945 1945 1944		65,404 65,017 70,106	35,184 32,910 27,893
Cumulative	Tota	als for	r Ca	nada	
January January		1945 1944			95,987 112,095

A. A. R. Board Meeting

Directors of the Association of American Railroads, holding their regular monthly meeting in Washington, D. C., on January 26, were principally concerned with the situation which brought on the week-end freight embargo announced the previous day by the Association's Car Service Division. This embargo is covered in another article in this issue.

Office of Defense Transportation officials attending the meeting included Director J. Monroe Johnson, Deputy Director Charles D. Young, and Homer C. King, executive assistant to the director. It is understood that General Young reported on the outlook for materials and equipment, mentioning indications that previous hopes for some passenger car production in 1945 will perhaps not be realized. With respect to the outlook for rail, General Young is understood to have said that the 1945 tonnage will not be much, if any, more than was made available last year.

It was stated that other matters considered by the directors included reports on the status of the Department of Justice's anti-trust suit, and on legislative matters, particularly the pending bills proposing enactment of the Railway Labor Executives Association's program for liberalizing the Railroad Retirement and Railroad Unemployment Insurance Acts.

Lightweight Hopper Carsa Correction

The article in the January 20 issue of the Railway Age describing the serviceperformance record of hopper cars constructed of materials for lightweight construction in one instance did not distinguish clearly between the materials under dis-The paragraph starting in the cussion. second column of page 185 refers first to the car bodies of USS Cor-Ten steel plate and then continues with reference to the car bodies of Double Strength steel, a separate material. The failure to designate "Double Strength" as a trade name has caused some confusion as to the materials to which the two parts of the paragraph refer.

Want Anti-Trust Laws Clarified

The United Fresh Fruit & Vegetable Association in a resolution passed at its annual meeting at Chicago on January 25, called upon Congress to clarify the government's policy with reference to the application of anti-trust laws to the transportation industry. The resolution asked for "prompt adoption of appropriate legislation which will remove all existing doubt and will expressly authorize, under proper supervision of the Interstate Commerce Commission, conference and co-operation between the carriers and the shipping public and between carriers themselves, for the purpose of achieving efficiency and economy in operation, the elimination of wasteful and destructive competition and the orderly marketing of the nation's goods."

December Truck Traffic

Motor carriers reporting to American Trucking Associations, Inc., transported in December, 1944, 1,600,044 tons of freight, a decrease of 7.8 per cent below their November, 1944, tonnage of 1,735,567 tons, and a drop of 5.7 per cent under the 1,696,-124 tons reported for December, 1943. The A. T. A. index figure, based on the 1938-1940 average monthly tonnage of the reporting carriers was 169.94 for December, 1944, as compared with the previous month's 188.45.

The foregoing figures, according to the A. T. A. announcement, are based on re-

ports from 241 carriers in 44 states. Truckers in the Eastern district reported for December, 1944, decreases of 8.6 per cent below the previous month and eight per cent below December, 1943. In the Southern region there was a decline of 7.9 per cent below the preceding month, but an increase of 4.2 per cent above December, 1943. The Western district's December, 1944, total was down 5.8 per cent from the previous month and 4.7 per cent under December, 1943.

Rectifiers Survive Bomb Shock Which Wrecked Station

The upper picture shows the Mann's Road railway substation near Edgeware Road, London, England. The crater in the foreground, 18 ft. deep and 50 ft. in diameter, was caused by a bomb of about 500 lb. The sub-station building was badly damaged and had to be fully taken down and rebuilt. The lower picture shows the interior of the same sub-station. Although the rectifier cubicles shown against the far wall were pushed back by the blast, the large glass rectifier bulbs did not suffer any harm. The d.c. switchboard shown at the left was forced out of position because of the movement of the wall to which it was attached and also because of the dragging action of the d.c. cables. In the foreground is a door which was blown in. All of the bulbs were tested and found to be in operating condition, and the plant was put back in service without alteration after the substation building had been rebuilt.

J. H. Aydelott Returns to O.D.T. Replacing E. J. Connors

The Office of Defense Transportation has announced that E. J. Connors, who has been director of its Railway Transport De-partment and Division of Transport Personnel, returned to the Union Pacific on February 1. He was on leave from his position as vice-president, operation.

Effective the same date, James H. Aydelott, general manager, lines East, of the Chicago, Burlington & Quincy, was appointed director of the Railway Transport Department, while A. W. Motley, loaned to the O. D. T. by the Social Security Board, was named director of the Division of Transport Personnel.

During much of 1943 and 1944 Mr. Aydelott was associate director and later acting director of the Railway Transport Division. His photograph and a sketch of his career appeared in Railway Age of July 24, 1943, page 188. Mr. Motley, according to the O. D. T., was at one time a personnel officer of the Atchison, Topeka & Santa Fe. Before going to the Social Security Board, where he is assistant director of the Bureau of Employment Security, he was an assistant director of the War Manpower Commission.

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The appointment of J. F. Sullivan as chief of the car utilization section of the O. D. T. railway department also has been announced. In this position he succeeds William H. Russell, who was on furlough from the Southern, to which road he has returned as assistant general freight agent at Atlanta, Ga. Mr. Sullivan joined the O. D. T. staff late in 1943 after 15 years in the accounting and freight department of the New York, New Haven & Hartford and 23 years in the freight traffic department of the Lehigh Valley. His duties at O. D. T. include administration of general orders 1 and 18A.

Senate Passes \$381.9 Million Rivers and Harbors Bill

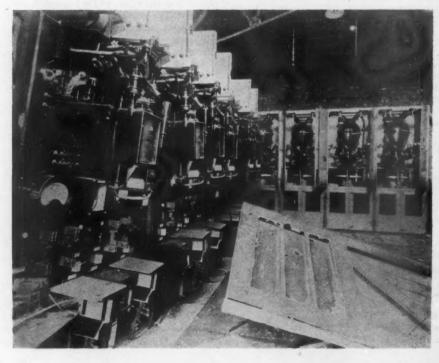
The Senate on January 28 passed without debate the \$381,968,332 omnibus rivers and harbors bill, S. 35, which had been reported favorably from its committee on commerce on the 25th. The bill was framed to avoid controversy, and thus it did not include authorizations for such projects as the proposed \$66,000,000 Tennessee-Tombigbee waterway, or for additional expenditures on the Beaver-Mahoning canal. Nor was there any renewal of the drive to add the proposed St. Lawrence seaway, which failed in the previous Congress.

Died in Previous Congress-As noted in the Railway Age of December 23, 1944, page 970, the omnibus rivers and harbors bill which had passed both houses in the previous Congress failed of final enactment, dying with the Congress when conferees failed to get together on the differing Senate and House versions. The conferees disagreed to the end of the so-called Elliott rider, an amendment sponsored by Representative Elliott, Democrat of California, to exempt that state's Central Valley project from the excess lands provisions of the federal reclamation laws.

Senator Overton, Democrat of Louisiana, who was in charge of S. 35 on the Senate floor, stated it to be his understanding that Representative Elliott would not urge the inclusion of the amendment in the bill when it reaches the House floor. Also, Senator Overton inserted in the Congressional Record a letter he had received from Chairman Mansfield of the House committee on rivers and harbors. Mr. Mansfield promised to proceed in an effort to put the measure through the House

The controversial projects will come up later, however, for Senator Overton stated that he thought it was the intention of the Senate commerce committee and the House rivers and harbors committee "to prepare later on in the session another river and harbor bill." In that bill the committees "will consider all new projects which have been reported since hearings on the bill of last year and any which has not been authorized in the pending bill, and will also consider any controversial projects and also





any other amendments, for instance, the Elliott amendment or any other amendment which may be more or less controversial in nature."

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"Post-War" the Excuse-Meanwhile Senator Overton described S. 35 as a bill which proposed to authorize 291 projects. The estimated total cost of \$381,968,332, he said, is \$320,530,000 less ("almost a 50 per cent reduction") than the total in the previous session's bill as it came from Senate committee. Elimination of duplications as well as the dropping of controversial projects contributed to the reduction. Among the authorizations eliminated were \$200,000,000 for Missouri river basin multiple-purpose projects, and \$28,-000,000 for the Savannah river and Clark Hill reservoir in Georgia, both of which were authorized in the flood control act passed last year.

The largest authorization in S. 35 is the \$60,000,000 for the Alabama-Coosariver project, which has been opposed by the railroads. Other projects estimated to cost \$10,000,000 or more are: Snake river, \$58,625,000; Columbia river, \$49,470,000; Illinois waterway, \$25,900,000; Neches and Angelina rivers, \$23,000,000; Trinity river and tributaries, \$15,000,000; Intracoastal waterway from Jacksonville, Fla., to Miami, \$11,789,000; Mississippi river between the Ohio and Missouri, \$10,290,000.

The bill, like that which failed of enactment last year, is set up as a "post-war" measure. It contains a provision stipulating that no project it authorizes shall be appropriated for or constructed until six months after the termination of the war, unless the construction of such project has been recommended by one of the war agencies as necessary to the national defense and security, and the President has notified Congress to that effect.

Record Year for Port of New York

"Nineteen hundred and forty-four has been an outstanding year in the history of the Port of New York," with export cargo, apart from coal, unloaded by railroads totaling 558,043 cars, or 112,054 more than were handled in 1943, the Joint Steamship and Railroad Committee of The Maritime Association of the Port of New York announced in its annual report, released January 26.

Some 44,805 carloads of frozen meat and other cargo were delivered alongside vessels by carfloats, and it is hoped, the committee observed, that 1945 will see an even greater increase in this practice, which has resulted not only in a saving in manpower at the railhead but in a saving, as well, of hundreds of lighters "so essential for delivery of war materials and food moving to various theaters of war."

The report pointed out that the 11 months from January through November represented a further saving in lighters and manpower, with cars of import and export cargo being delivered to and received direct from cars at railroad terminals. Such import cargo amounted to 921,644 tons, requiring 15,238 cars, while export cars totaled 2,543 with a tonnage of 81,309.

The committee gave particular credit

for the success of all port operations to steamship operators and to the railroads serving the port. Specifically cited also were: Walter W. Schwenk, Atlantic coast director, War Shipping Administration; George C. Randall, manager port traffic, Association of American Railroads; Col. K. W. Thom of the U. S. Army Transport Bases; and the Office of Defense Transportation acting through various army and navy personnel in this area, as well as the British Ministry of War Transport.

House Interstate Commerce Committee Organizes

Election of the Republican members on January 25 completed organization of the House Committee on Interstate and Foreign Commerce for the Seventy-ninth Congress. The Democratic members had been elected on the 16th, including Representative Clarence F. Lea of California who continues as chairman.

The new committee consists of 28 members, including 17 Democrats and 11 Republicans; its predecessor had 25 members, including 14 Democrats and 11 Republicans. The full membership is as follows:

Democrats

Clarence F. Lea of California
Robert Crosser of Ohio
Alfred L. Bulwinkle of North Carolina
Virgil Chapman of Kentucky
Lyle H. Boren of Oklahoma
Lindley Beckworth of Texas
J. Percy Priest of Tennessee
Oren Harris of Arkansas
George E. Sadowski of Michigan
Richard F. Harless of Arizona
John W. Murphy of Pennsylvania
Edward A. Kelly of Illinois
Luther Patrick of Alabama
John B. Sullivan of Missouri
Dwight L. Rogers of Florida
Benjamin J. Rabin of New York
Vito Marcantonio of New York

Republicans

Charles A. Wolverton of New Jersey Pehr G. Holmes of Massachusetts B. Carroll Recce of Tennessee Charles A. Halleck of Indiana Carl Hinshaw of California Charles J. Brown of Ohio Evan Howell of Illinois Leonard W. Hall of New York Thomas D. Winter of Kansas Joseph P. O'Hara of Minnesota Wilson D. Gillette of Pennsylvania

The last eight representatives on the Democratic list are newcomers to the committee, although Representative Patrick is a former member who came back, winning again the House seat to which he failed to get reelected in 1942. The only newcomer among the Republicans is Representative Gillette. Membership of the Senate Committee on Interstate Commerce was reported in the January 20 Railway Age, page 203, and names of two additional members are given elsewhere in these columns.

E. G. Budd Sees Mexico and Canada as Tourist Meccas

Speaking before the Philadelphia, Pa., section of the American Society of Mechanical Engineers on January 23, Edward G. Budd, president of the Edward G. Budd Manufacturing Company, predicted that Mexico and Canada will become goals for tourist travel almost as important to Americans as Florida is today, as soon as important advances in the building of rail-

road passenger cars, growing out of lessons learned in war production, become available. Mr. Budd said that the post-war railroad passenger cars would embody such improvements as lighter weight, greater strength, smoother riding, faster acceleration and deceleration, improved control of the trains and many more conveniences for passengers.

The speaker also foresaw an increase in the use of automobiles, buses and airplanes. But in each instance, he felt that the increased popularity of other forms of travel would stimulate the use of the railroads. He asserted that each mode of transportation had a field of its own and that one complements rather than competes with the other.

In commenting on metals ideally suited for railroad car construction, Mr. Budd said: "The progress in developing materials and in proving their strength-weight ratio has been so great in recent years that we should anticipate the possibility of some new materials which might take the place of stainless steel, which we now consider the ideal metal. But at the moment there is nothing comparable. For that reason, the Budd Company will continue to use stainless steel in all structural parts."

"We are," he went on to say, "pinning great faith in an enormous growth in rail-road travel. I am the more willing to commit ourselves to this industry because I find uniformly among the officers, operators and managers of the railroads, this same confidence."

Older Employees Boost Pensions by Not Retiring

Employees who have continued at work to aid the war effort, although they have reached the age of retirement, have increased their annuity benefits as much as \$5 per month, according to the January issue of the Monthly Review of the Railroad Retirement Board. A sample study of annuities certified during the last fiscal year shows that almost three-fourths of the employees who continued in covered employment after reaching the age of 65 years succeeded in increasing the amounts of their annuities. The increases ranged from less than 25 cents per month to almost \$5, the average increase being 96 cents.

Retirement benefits certified in November amounted to \$11,652,000, about \$105,000 less than in October. Compared with the first 5 months in 1943-44, however, payments in the current fiscal year to date were 4 per cent higher. Of the November certifications, \$9,821,000 was for employee annuities, \$1,161,000 for pensions, \$127,000 for monthly payments to survivors, and \$523,000 for lump-sum death benefits. At the end of the month, 143,000 employee annuities were in force, at an average payment of \$66.74. Pensions were reduced to 19,800 with an average payment of \$59.29. Survivor annuities in force numbered 3,773 and death-benefit annuities 527, with average benefits of \$31.81 and \$35.83, respectively. Lump-sum death benefits were certified in 1,464 cases, at an average of \$349.63

Unemployment insurance operations continued the gradual increase in activity noted in recent months. Applications for certificate of benefit rights received numbered 1,440, compared with 556 in October. The number of benefit accounts opened rose somewhat, to 377. The 2,460 claims received represented an increase of 13 per cent. Both the number and amount of benefit payments cartified were higher, rising to 1,866 and \$49,000, respectively. The Dallas and Denver regions were the only ones which showed no increases in the number of certifications.

More than 116,000 job placements were verified by the employment service during November, an increase of 10 per cent over October. Larger numbers of placements were reported by all but one of the Board regions. The largest rise occurred in Chicago, where servicemen were used to a greater extent than elsewhere. Over 1,500 of the placements resulted from recruitment of workers in one region for jobs in another, mainly in the San Francisco region. More than half of the interregional placements were for work as firemen, brakemen, or switchmen. Recruitment to fill the critical need for these workers in the Far West continued on a national "A" priority rating during November, and resulted in 1,314 placements between November 4 and December 2.

Supreme Court Holds Jury Must Decide Negligence Case

The question of the right of an employee to go to a jury in a personal injury suit where the assumption of risk doctrine of the Federal Employers' Liability Act was involved was decided for the employee in an opinion of the Supreme Court of the United States delivered January 29 by Justice Black. The case—Blair vs. Baltimore & Ohio—had come up from the Pennsylvania Supreme Court, which had held that the employee had assumed risk of injury by remaining in the employment, and that there was no evidence to support negligence in any respect.

Chief Justice Stone and Justice Roberts were of the opinion that the appellate court's judgment should be affirmed, but the Supreme Court majority would "not apply the doctrine of assumption of risk so rigorously." The county court had granted the carrier a new trial after the jury had brought in a verdict for the employee, and both parties had subsequently appealed.

The case grew out of an injury sustained while the employee was engaged in moving certain heavy lengths of pipe at a freight warehouse. The evidence indicated that he informed his superior that the pipes were too heavy for him to move. After he was instructed to get the help of two other employees, not accustomed to this work, he protested further, but was directed to do the work, or someone else would be found who would do it.

Such questions as the danger involved in moving the pipe with an ordinary platform "nose truck," its suitableness for this unusual purpose, the number and experience and ability of the men assigned to help, the condition of the surface on which the movement was performed, all such matters were appropriate for jury consideration, Justice Black-held, and the court could not say as a matter of law that the

railroad complied with its duties under the act in a reasonable careful manner, nor that the employee voluntarily assumed the risks incident to moving the pipe.

"It is true that the petitioner undertook to do the work after he had complained to the company that the pipe should not be moved in the manner that it was," said the opinion. "But he was commanded to go ahead by his superior. Under these circumstances it cannot be held that he voluntarily assumed all risks of injury." Quoting the court's decision in Bradley vs. Central Vermont, it remarked that to deprive employees of jury trial in doubtful cases "is to take away a goodly portion of the relief which Congress has afforded them."

Bills in Congress

Additional bills to liberalize the benefit provisions of the Railroad Retirement Act have been introduced in the House by Representatives Harris, Democrat of Arkansas, and Howell, Republican of Illinois, They are H.R. 1737 and H.R. 1771.

Another superhighway bill, H.R. 1774, has been introduced by Representative Sheppard, Democrat of California, while

the Congress continues to receive bills to prohibit discrimination in employment because of race, creed, color, national origin, or ancestry. Senator Taft, Republican of Ohio, has introduced S. 391 to amend the daylight saving law to authorize the Interstate Commerce Commission to discontinue daylight saving time "in any zone in which it finds that the continuance thereof is no longer necessary."

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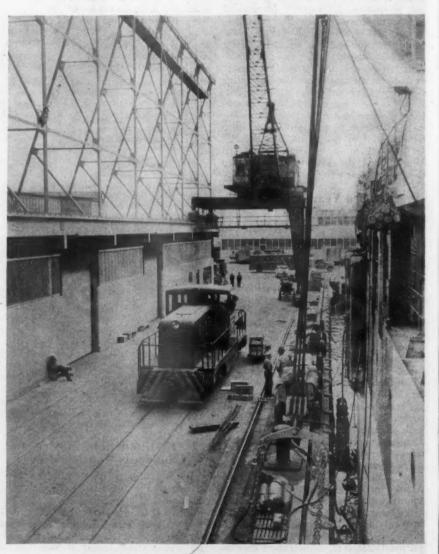
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Diesel-Electrics at Naval Depot

Five Diesel-electric locomotives, built by General Electric and ranging in size from 44 to 80 tons, are operating almost 24 hours a day, seven days a week, at the U. S. Naval Supply Depot, Oakland, Calif.

Used to the full extent of their 98.8 per cent availability, these Diesels are doing the work formerly done by eight steam switchers. They perform the yard switching necessary for the continuous loading of Navy vessels.

Since December, 1943, when they were placed in service, the two 80-ton locomotives have required no maintenance other than a routine two-hour weekly servicing. Maintenance for the others has been equally favorable. Operating costs have also been



An 80-Ton Diesel-Electric Locomotive on a Pier Alongside a Ship at the Naval Supply Depot, Oakland, Calif.

284

lower, with the 80-tonners handling 50 per cent more work at a fuel cost 75 per cent below that of the steam switchers.

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The short, rigid wheelbase and swivel trucks of the Diesel-electrics has been found an asset in negotiating the severe curves at both ends of the classification vard. In addition, track maintenance is reduced and derailments are avoided.

Senate Committee Gets Two **New Members**

Senators Briggs of Missouri and Mitchell of Washington, Democrats, have been elected to the Senate committee on interstate commerce, thus bringing the committee to its full membership of 21. When the committee was organized for the seventy-ninth Congress, as noted in the Railway Age of January 20, page 203, there was one vacancy; and a second one was created when former Senator Truman resigned to take his oath of office as Vice-President.

I. C. C. Service Orders

Interstate Commerce Commission service orders issued in connection with general civilian freight embargo lately effective in most of the territory east of the Mississippi and north of the Ohio and Potomac rivers are reported elsewhere in this issue. One was a revised version of No. 275, which provided for rerouting freight within the affected area, while the other, No. 277, prohibited reconsignment of fresh fruits or vegetables in refrigerator cars to points within the same region.

Another service order, No. 278, which was effective for less than 2 days, was also issued as a result of sluggish traffic resulting from severe weather in the East. It applied to the Central of New Jersey, Delaware & Hudson, Lackawanna, Erie, Lehigh & New England, Lehigh Valley, Pennsylvania, Reading, and New York, Ontario & Western, and prohibited the placing of cars at mines or breakers for loading with anthracite on January 30 when such mines loaded cars on January 29. The same roads were prohibited from moving from the place of loading before January 30 cars loaded with anthracite on January 29.

Effective January 31 through April 30, unless otherwise directed, Second Revised Service Order No. 259 extended to Aroostook county, Maine, the requirement that shipments of Irish potatoes by rail from certain areas must be authorized by War Food Administration permit.

General Permit No. 1, applying to reicing refrigerator cars loaded with Florida citrus fruits, has been modified as to the categories of fruit to which tariff mini-mum weights apply. It expires April 1 unless otherwise ordered.

St. Lawrence Seaway Condemned by Maritime Association

On January 27 the Maritime Association of the Port of New York addressed a letter to Governor Thomas E. Dewey asking that the state's officials oppose the St. Lawrence Seaway and Power Project legislation now pending in Congress because of the ruinous effect the project would have on the operation of the American

Merchant Marine in the overseas trades and because of its serious menace to the state of New York. The letter declared the city of Buffalo, N. Y., was on record as to the harmful effects of the proposed development on that city and that practically every commercial organization in New York City and in other sections of the state, with few exceptions, were on record in opposition. It pointed out that many of the shippers in Great Lakes ports and in the midwest also were opposed and that the vested interests in the Port of New York, Buffalo, and other cities throughout the state, such as warehouses, docks, and harbor equipment, would be detrimentally affected.

In the letter, C. H. Callaghan, manager of the Maritime Association of the Port of New York, listed the following summary of the factors demonstrating the economic futility of the St. Lawrence Seaway project: that it was commercially unsound and would impose inordinate tax burdens without corresponding benefits; that it would divert traffic from railroads steamship lines, and inland waterways and have a permanent detrimental effect upon banking, industry, employment and purchasing power: that it would impair property and rental values resulting in diminution of tax returns to the city and state of New York; increase unemployment of a vast army of railroad employees, miners, seamen, longshoremen, and labor in many industries; and impair the fulfillment of the policy of Congress to foster the development and maintenance of a merchant marine for the transportation of the commerce of the United States on essential trade routes. The summary pointed to the dangers of navigating the proposed waterway and declared the cost of the project was under-

Roads Lose Battle on Through Routes

(Continued from page 277)

Shippers' vs. Carriers' Interests-The Pennsylvania and 12 other trunk line roads then sought an injunction annulling the order prescribing such routes, and the case reached the Supreme Court when the threejudge district court dismissed that petition. The litigation was based primarily upon the interpretation put by the commission on section 15(4)(b) of the act, the exemption from the general prohibition of through routes requiring short-hauling which was quoted above.

The railroads argued that "adequate, and more efficient or more economic, transportation" refers to "carrier operations and expense and has no reference to the broader public interest which embraces service to shippers and the rates they pay," said Justice Roberts. The shipper and the commission, on the other hand, asserted that the phrase "comprehends the adequacy of service, its cost to the shipper, and the convenience, efficiency, and cost of the carriers' operations." The courts took the latter view.

As a supplementary issue, the railroads contended that, even if the commission was

right in its interpretation of the statute, its conclusion was not supported by the evidence, nor did its findings show that the costs and inconvenience of rendering service over routes involving four, five or six roads, with the necessary interchanges, "would not be inordinately expensive and burdensome." As to this, Justice Roberts said, "True, the commission's findings are not sharp and clear on the point, but the matter was not ignored and the commission's decision refers to it." Resolving the argument with a double negative, he concluded that the court was "unable to say that there was not" sufficient in the record to support the commission's assertion that it did weigh the evidence and find it in favor of the order it made.

Would Create House Committee on Air Services

Representative Hinshaw, Republican of California, a member of the House committee on interstate and foreign commerce. has introduced House Resolution 94 to create a new House standing committee on air services. The committee would have referred to it matters relating to "air services other than appropriations therefore. including all commercial and civil aviation and including their relationship with or between Army and Naval air services, and including meteorological services."

Non-ops Apply for Panel Board in Vacations Dispute

Railroad unions representing non-operating employees have applied to Chairman H. H. Schwartz of the National Railway Labor Panel for appointment of an emergency board to investigate the dispute arising out of their demand for more liberal vacations-with-pay arrangements. It was expected that Mr. Schwartz would appoint such a hoard within the next month.

The application of the unions for the emergency board followed upon the breakdown last week of mediation proceedings which had been under way in Chicago under the auspices of the National Mediation Board since early this month. Meanwhile N. M. B. had not been able to bring about an agreement to submit the controversy to arbitration.

As noted in the Railway Age of January 20, page 203, the unions are asking for 12 days' vacation with pay for all employees who have worked at least 160 days in the preceding calendar year, 15 days after two years of continuous service, and 18 days after three years.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of

The following has dates of meetings and places of meetings:

Allied Railway Supply Association.—J. F. Gettrust, P. O. Box 5522, Chicago 80, Ill.

American Association of General Baggage Agents.—E. P. Soebbing, 1450 Railway Exchange Bidg., St. Louis, Mo.

American Association of Passenger Traffic Oppicers.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York 6, N. Y.

American Association of Railroad Superintendents.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting May 8-10, 1945, Hotel Stevens, Chicago, Ill.

American Association of Railway Advertising Agents.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill.

American Railway Bridge and Building Association.—Miss Elise LaChance, Room 901,

431 S. Dearborn St., Chicago 5, Ill. Annual meeting, October 16-18, 1945, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York 6, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.
—O. K. Quivey, B. & O. R. R., Baltimore 1, Md. Md.

AMERICAN RAILWAY ENGINEERING ASSOCIATION. AMERICAN RAILWAY ENGINEERING ASSOCIATION.—
Works in cooperation with the Association of
American Railroads, 'Engineering Division.—
W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

AMERICAN RAILWAY MAGAZINE EDITOR' ASSOCIATION.—Virginia Tanner, Baltimore & Ohio
Magazine, Room 1202, B. & O. Bldg., Baltimore 1, Md.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Virginia Tanner, Baltimore & Ohio
Magazine, Room 1202, B, & O. Bldg., Baltimore 1, Md.
AMERICAN SHORT LINE RAILROAD ASSOCIATION.—
J. P. Nye, Tower Bldg., Washington 5, D. C.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
—C. E. Davies, 29 W. 39th St., New York
18, N. Y. Division.—E. L. Woodward, Rail-chanical Engineer, 105 W. Adams

Railroad Division.—E. L. Woodward, Railroad Division.—E. L. Woodward, Railway Mechanical Engineer, 105 W. Adams St., Chicago 3, Ill.

American Transit Association.—Guy C. Hecker, 292 Madison Ave., New York 17, N. Y.

American Wood-Preservers' Association.—H. L. Dawson, 1427 Eye St., N. W., Washington 5, D. C.

Associated Traffic Clubs of America, Inc.—R. A. Ellison, Cincinnati Chamber of Commerce, 1203 C. of C. Bldg., Cincinnati 2, O.

Association of American Railroad Dining Car Officers.—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago 5, Ill.

Association of American Railroads.—H. J. Forster, Transportation Bldg., Washington 6, D. C.

Operations and Maintenance Deposits.

Operations and Maintenance Department. Charles H. Buford, Vice-Presiden Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington 6, D.C. Operating-Transportation Division. — L. R. Knott, 59 E. Van Buren St., Chicago 5, III. Operating Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y. Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5, III. Communications Section.—W. A. Fairhanks, 30 Vesey St., New York 7, N. Y.

N. Y.

Fire Protection and Insurance Section.

—W. F. Steffens, New York Central, Room#3317, 230 Park Avenue, New York 17, N. Y.

Freight Station Section.—N. Kaplan, 59 E. Van Buren St., Chicago 5, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Protective Section.—J. C. Caviston.

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Protective Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Safety Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.
Construction and Maintenance Section.
—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.
Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.
Signal Section.—R. H. C. Balliet, 30 Vesey St., New York 7, N. Y.
Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago 5, Ill.

Ill.
Electrical Section.—J. A. Andreucetti.
59 E. Van Buren St., Chicago 5, Ill.
Purchases and Stores Division.—W. J.
Farrell (Executive Vice-Chairman),
Transportation Bldg., Washington 6,
D. C.

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dent, Transportation Bldg., Washington 6, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington 6, D. C.

Association of Railway Claim Agents.—F. L. Johnson, Alton R. R., 340 W. Harrison St., Chicago 7, Ill.

Bridge and Building Supply Men's Association.—P. R. Austin, Johns-Manwille Sales Corp., Merchandise Mart, Chicago, Ill.

Canadian Railway Club.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal, Que. Regular meetings second Monday of each month, except June, July and August, Mount Royal Hotel, Montreal, Que.

Car Department Association of St. Louis. Mo.

—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third

Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo. Car Department Officers' Association.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31, Ill. Car Foremen's Association of Chicago. Ralph J. Feddor, 2803 N. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.
Central Railway Club of Buffalo.—R. E. Mann, 1840-42 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—H. J. Hawthorne, Union Railroad, East Pittsburgh, Pa.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York 7, N. Y. Regular meetings, second Friday of January, February (Annual Dinner), March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, North Little Rock, Ark.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stigmeier, 29 Parkwood St., Albany 3, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington, D. C.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—W. B. Shepherd, Aluminum Company of America, Gulf Bldg., Pittsburgh, Pa.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—Edward F. Lacey, Suite 450, Munsey Bldg., Washington 4, D. C. Annual meeting, November 29-30, 1945, Palmer House, Chicago, III.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago 4, III.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York 7, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y. NORTHWEST CARMEN'S ASSOCIATION.—E. N. Myers, Minnesota Transfer Ry., 1434 Iowa Ave., St. Paul, Minn. Regular meetings, second Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y. NORTHWEST CARMEN'S ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago 3, III.

RAILWAY CLUB OF PITTSBURGH.—J. D. Comway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month,

Ton, Prac National Bails Daiss, Chicago 8, 2308 Keenan Bidg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago 6, Ill. RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bidg., 327 S. La Salle St., Chicago 4, Ill. RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. COMWAY, 308 Keenan Bidg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.

—J. D. CONWAY, 308 Keenan Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE
ASSOCIATION.—G. A. Nelson, Waterbury, Battery Company, 30 Church St., New York 7,
N. Y. 'Meets with Communications Section
of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds,
610 Shell Bldg., St. Louis 3, Mo. Annual
meeting, May 8-9, 1945, Netherland Plaza
Hotel, Cincinnati, O.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elise LaChance, Room 901,
431 S. Dearborn St., Chicago 5, Ill. Annual
meeting, September 18-20, 1945, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson,

meeting, September 18-20, 1945, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30. Church St., New York 7, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St. S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga., Savannah, Ga. TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8. Terminal "A." Toronto 2, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas Q. and C. Company, 59 E. Van Buren St., Chicago 5, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island 2, N. Y.
WESTERN RAILWAY CLUB.—E. E. Thulin, Suite

339, Hotel Sherman, Chicago, Ill. Regular meetings, third Monday of each month, ex-cept January, June, July, August and Sep-tember, Hotel Sherman, Chicago, Ill.

Construction

CANADIAN PACIFIC .- As part of a general improvement program, this road has awarded 14 contracts, each of which is in excess of \$20,000. The proposed work, the location and the contractors involved are as follows: Installation of a 280-ton coal dock at Winnipeg, Man., Claydon Company, Ltd., Winnipeg; extension of roundhouse and re-roofing of nine stalls at Brandon, Man., H. D. Spratling, Brandon; construction of new enginehouse at St. Boniface, Man., G. A. Baert, St. Boniface; installation of a 100-ton coal dock at Lanigan, Sask., Bennett & White, Calgary, Alta.; construction of new freight office at Moose Jaw, Sask., P. W. Graham & Sons, Ltd., Moose Jaw; re-roofing of nine buildings at Ogden, Alta., Stewart & Phillips, Ltd., Calgary; extension of roundhouse stalls at Medicine Hat, Alta., F. W. McDougall Construction Company, Calgary; grading line diversion on the Carmi subdivision, Bennett & White, Vancouver, B. C.: extension of station and platforms at Nelson, B, C., L. Simpson, Nelson; grading 9.5 miles of railway on the Osoyoos subdivision, B. C., Mannix & Dutton, Winnipeg; erection of coal dock and section house at Osovoos, Amundson Construction Company, Vancouver; renewal of marine elevator at Nanaimo, B. C., B. C. Equipment Company, Vancouver; filling at Bridge 92.1 on the Carmi subdivision, Bennett & White, Vancouver, and construction of new freight office at Saskatoon, Sask., M. Miners Construction Company, Saskatoon.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.-This road has awarded a contract, amounting to \$136,000, to the Roy T. Early Company, Tacoma, Wash., for the construction of a two-stall motor-house addition to the engine house at Tacoma. The work is to include construction of a locker and wash building, inspection pits and a drop table.

DENVER & RIO GRANDE WESTERN.-This road has recently added a number of projects to an improvement program started last year which will be included at a total cost of \$2,444,915. Included in this work are individual jobs and costs as follows: Installation of slag ballast between Provo, Utah, and Thistle, \$73,000; laying of 72 miles of new rail throughout the system, \$1,421,000; laying of rail on branch lines and sidings, \$205,000; replacement of bridges and culverts throughout the system, \$321,215; line change near Chacra, Utah, involving double track steel bridge, \$23,-000; rearrangement of track circuits and installation of new batteries and circuits between Helper, Utah, and Thistle, \$34,500; construction of bridge and building utility and shop buildings at Pueblo, Colo., and Burnham and Salt Lake City, Utah, \$98,-000; addition to freight depot at Alamosa, Colo., \$45,000; construction of a 250,000gal. Diesel fuel oil storage tank at Burn-

LIN



Before the war freight was highballed on the Southern Pacific between Los Angeles and San Francisco, making the 425 mile run overnight.

The trains were hauled by the same class of 4-8-4 super-power Lima locomotives that speed its famous passenger trains - - - the streamlined "Daylights."

The Southern Pacific plans to resume this cannonball freight service as soon as possible in the post-war period and is already equipped with the motive power, now having a fleet of sixty 4-8-4 Lima locomotives to be utilized on its "Overnights" as well as its "Daylights."

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

ham, \$30,000; replacement of sanding facilities at Grand Junction, Colo., \$31,000; installation of Whiting car washer at Burnham, \$22,500; construction of drop pit and drop table at Pueblo and Helper, \$68,000; construction of first aid building at Salt Lake City, \$21,700, and installation of new 425 hp. steam boiler with stoker at Alamosa, \$51,000.

works of the U. S. Steel Corporation in 1923 and was employed in that company's St. Paul, Minn., sales office in 1924-25. He subsequently worked in the investment field until 1936. Since then he has served successively as sales engineer for the Petti-

of \$3,139,750 for rails and accessories, which is in addition to the present program.

FREIGHT CARS

The CHICAGO, ROCK ISLAND & PACIFIC is inquiring for 500 box cars.

PASSENGER CARS

The CANADIAN NATIONAL is inquiring for 30 first class passenger coaches.

Financial

ATLANTIC COAST LINE.—Bonds.—Division 4 of the Interstate Commerce Commission has authorized this road to issue \$388,000 of first consolidated mortgage 50-year 4 per cent gold bonds and \$112,000 of general unified mortgage 50-year series A 4½ per cent gold bonds, to be pledged, in substitution for \$500,000 of Atlantic Coast Line of South Carolina general first mortgage 4 per cent bonds, as security for its performance of the terms of a lease of the Georgia Railroad. The South Carolina bonds will be cancelled.

CHESAPEAKE & OHIO.—Car Float Operation.—Division 4 of the Interstate Commerce Commission has authorized this company to operate car floats from Newport News, Va., to the U. S. Navy operating base at Sewalls Point, Norfolk, Va., crossing Hampton Roads. This operation will be in lieu of one via the Sewalls Point car float oridge of the Norfolk & Portsmouth Belt Line and the Virginian, so far as traffic to and from the naval station is concerned, and will expedite its movement, the division noted.

CHICAGO & NORTH WESTERN.—Final Decree March 1.—The District Court at Chicago has set March 1 as the date for the signing of the final decree in the reorganization of the Chicago & North Western.

DELAWARE & HUDSON.—Dividend.—The Delaware & Hudson has declared a common dividend of \$1 per share, payable March 20. This will be the first such disbursement since December 31, 1930.

PERE MARQUETTE. - Refinancing. - The Pere Marquette has asked for competitive bids by February 19 on \$50,000,000 of 35year bonds to refinance all of the company's outstanding first mortgage debts. Proceeds from the sale, together with treasury funds, will be used to call for redemption the \$52,467,000 of Series A 5 per cent and Series B 4 per cent bonds of 1956, and the Series C 41/2 per cent bonds of 1980. After the refinancing the new bonds will represent the only debt against the property, excepting \$7,472,000 of equipment trust notes. Giving effect to the \$2,467,000 of debt reduction to be thus accomplished, total reduction in mortgage since October, 1942, will be \$14,535,000, or 221/2 per cent. The reduction in annual interest charges, as compared with 1942, will be about 37 per

JAMESTOWN, WESTFIELD & NORTHWEST-ERN.—Control.—The Interstate Commerce

Supply Trade

Joseph R. Harrison, department manager and C. A. Steffen, superintendent of dismantling operations of the Hymans-Michaels Company have resigned to become manager of the scrap department and general superintendent of all operations, respectively, of the Purdy Company, Chicago.

George T. Badger, sales engineer in charge of railway controls market development for the Minneapolis-Honeywell Regulator Company, has been appointed chief sales engineer of the Paxton-Diesel Engi-



George T. Badger

neering Company, newly-formed subsidiary of the Paxton-Mitchell Company at Omaha, Neb. Mr. Badger will direct market development of Diesel specialties and parts manufactured by the company. He was graduated with a degree in engineering from Purdue University and was associated with the Minneapolis-Honeywell Regulator Company for 13 years prior to his new appointment.

F. W. Sparks, a member of the sales department of the Cummins Engine Company, Columbus, Ind., has been appointed manager of the Cleveland, Ohio, region, which includes Ohio and Michigan, with headquarters in Cleveland.

W. E. Olds has been appointed sales agent for the American Car & Foundry Co., with headquarters in the company's Chicago office. Mr. Olds was graduated from Wisconsin University in 1923, after having served overseas for 16 months with the U. S. Engineers' Corps in the first world war. He joined the Gary, Ind.,

W. E. Olds

bone, Mulliken Corporation, and the Gustin-Bacon Manufacturing Company and, until recently, as western manager, railway division, for the Elastic Stop Nut Corporation.

C. E. Scott, eastern manager with headquarters in New York for the Haskelite Manufacturing Corporation of Grand Rapids, Mich., has resigned to operate the C. E. Scott Company, Inc., of New York, handling veneers and plywood. Mr. Scott was graduated from Ohio Northern University with a degree in civil engineering in 1918 and had been associated with the Haskelite Corporation for the past 25 years.

Frederic Crosby, president of the American Hoist & Derrick Co., St. Paul, Minn., has been elected chairman of the board and has been succeeded by Harold O. Washburn, vice-president and treasurer. R. E. Ljungkull, chief engineering; D. B. Botkin, superintendent of production, has been elected vice-president of manufacturing; and S. M. Hunter, manager of sales, has been elected vice-president of sales. J. F. Bishop has been named secretary and assistant treasurer and R. J. Henry has been appointed assistant secretary.

Equipment and Supplies

Mo. P. Improvements

The District Court, at St. Louis, Mo., has authorized the Missouri Pacific to spend \$9,107,715 for improvements in 1945. Of the total, \$6,476,275 is for the Missouri Pacific, \$1,163,960 is for the International-Great Northern and \$1,467,480 is for the New Orleans, Texas & Mexico. Last July the Court authorized the expenditure

THE FRANKLIN SYSTEM OF STEAM DISTRIBUTION

makes available

FULL BOILER CAPACITY

WITH conventional cylinders, valves and valve gears, there are definite design limitations which prevent the full utilization of boiler capacity.

The Franklin System of Steam Distribution entirely eliminates these design limitations, and makes possible the full utilization of the potential boiler capacity, insuring a substantial increase in horsepower output and productive capacity.



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FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK & CHICAGO

Coneda: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTRIAL

Commission has been asked to approve the acquisition of control of this road by four individuals, Harry E. Salzberg, Murray M. Salzberg, Mayer P. Gross, and Morris H. Snerson, who individually and through companies controlled by them hold all the stock and bonds of this carrier and also of the Unadilla Valley and the Southern New York. In expressing their intention of continuing the operation of these three roads, and perhaps of others, they pointed out that from time to time they had acquired the physical property of several rail lines for the scrap metal they yielded, but that they expected further operation of the lines mentioned to be remunerative.

MISSOURI-KANSAS-TEXAS.—Reduction of Funded Debt.-The Missouri-Kansas-Texas effected a reduction of more than \$14,-000,000 in its funded debt in the first 11 months of 1944, thereby bringing annual interest charges, exclusive of adjustment bond interest, to approximately \$2,600,000 as compared with \$3,600,000 in 1943. Since 1941, reductions in funded debt totaling more than \$35,000,000 have cut the outstanding indebtedness from \$92,000,000 to \$57,000,000. Recently the Katy paid off a Reconstruction Finance Corporation loan of \$2,314,027 with money secured from a group of banks.

MISSOURI-KANSAS-TEXAS. - New Loan Repays R. F. C .- The Missouri-Kansas-Texas has borrowed \$2,000,000 at 2 per cent from four New York banks, the Bankers Trust Company, the Chemical Bank & Trust Co., the Guaranty Trust Company, and the National City Bank, repayable in eight quarterly installments from March 30, 1945, to December 30, 1946. The proceeds, with other funds, were used to pay the balance of \$2,314,027 of a Reconstruction Finance Corporation loan. The road pledged as collateral for its new loan, \$3,636,000 of its prior lien 5 per cent bonds due in 1975, which were part of the R. F. C. released collateral.

NEW YORK CENTRAL. - Promissory Notes.-On July 24 the New York Central awarded its \$1,142,080 of series A promissory notes to the Public National Bank & Trust Co., New York, on an interest cost basis of 1.45 per cent. Proceeds will be used in connection with the purchase from the American Locomotive Company of 19 Diesel-electric switching locomotives, including 7 of the 1,000-hp. type costing \$78,-904 each, and 12 of the 660-hp. type costing \$60,154 each.

PENNSYLVANIA .- New Director .- Philip R. Clarke, president of the City National Bank & Trust Co. of Chicago, has been elected a director of the Pennsylvania to succeed the late D. R. McLennan.

St. Johnsbury & Lake Champlain .-Reorganization.-This road has applied to the federal court and the Interstate Commerce Commission for authority to proceed with reorganization under the provisions of section 77 of the Bankruptcy Act, acknowledging inability to meet accumulated liabilities. Prior to 1925, this road's operations were directed by the Boston & Maine. Its reorganization petition lists the following liabilities: \$1,308,000 of matured first mortgage bonds, on which unpaid interest amounts to \$54,500; \$149,980 promissory notes held by the state of Vermont, with \$89,606 in unpaid interest; \$940,432 of demand notes held by the Boston & Maine, on which accumulated interest due is \$1,177,777; \$30,100 of demand notes held by the Maine Central, with interest due totaling \$30,100; open account indebtedness to the Boston & Maine for advances, \$1,001,475; and \$6,397 due the Maine Central on open account in connection with improvements on a leased line. The petition indicated current assets totaling \$92,000.

SOUTHERN NEW YORK .- Control .- See Jamestown. Westfield & Northwestern.

Texas & Pacific .- Annual Report .-The 1944 report of this road shows net income, after interest and other charges, of \$3,821,791, as compared with net income of \$6,155,859, in 1943. Selected items from the income statement follow:

	1944	Increase Or Decrease Compared With 1943
Average Mileage Operated	1,884.31	-5.56
RAILWAY OPERATING REVENUES	\$80,002,745	+\$9,335,100
Maintenance of way	10,926,187	+1,867,900
Maintenance of equipment	11,317,156	+535,573
Transportation—rail line	19,020,545	+2,242,046
TOTAL OPERATING EXPENSES	45,921,334	+5,108,647
NET REVENUE FROM OPERATIONS Railway tax accruals	34,081,412 24,957,935	+4,226,454 +5,245,764
RAILWAY OPERATING INCOME Net rents—Dr.	9,123,476 2,366,202	-1,019,310 +1,468,303
NET RAILWAY OPERA- TING INCOME Total other income	6,757,274 781,870	-2,487,614 +52,917
TOTAL INCOME	7,539,144	-2,434,697
Interest on funded debt	3,465,361	-178,931
TOTAL FIXED CHARGES	3,474,447	-178,091
Contingent Charges: Interest on funded debt	7,841	-2,088
NET INCOME	3,821,791	-2,334,069
NET INCOME	3,821,791	-2,334,069

UNADILLA VALLEY. - Control. - See Jamestown, Westfield & Northwestern.

Average Prices Stocks and Bonds

A	Jan. 30	Last	Last
Average prices of 20 representative railway stocks. Average prices of 20 representations of 20 representation		47.06	37.75
sentative railway bonds.	93.54	93.67	84.58

Dividends Declared

Green Bay & Western.—\$5.00, annually, payable February 19 to holders of record February; \$5.00. "A" debs., \$5.00, "B" debs., both payable February 19.
Michigan Central.—\$25.00, semi-annually, payable January 31 to holders of record January 19.
Mine Hill & Schuylkill Haven.—\$1.00, semi-annually, payable February 1 to holders of record January 15.
Minneapolis & St. Louis.—\$1.00, payable March 1 to holders of record February 14.
Reading.—4% 1st preferred, 50¢, quarterly, payable March 10 to holders of record February 14.
Reading.—4% 1st preferred, 50¢, quarterly payable March 8 to holders of record February 15.
Southern.—common, 75¢, payable March 15 to holders of record February 15; 5% non-cumulative preferred, \$1.25, quarterly, payable March 15, June 15, and September 15 to holders/of record February 15, May 15, and August 15 respectively. respectively.

Abandonments

More Employee Protection Cases Presented by Unions

Without waiting for Commission action in all of the proceedings in which similar applications recently were filed, the Railway Labor Executives Association has asked the Interstate Commerce Commission to reopen and reconsider several additional proceedings in which railroads were authorized to abandon certain mileage, subject to a reservation of jurisdiction for 2 years with respect to the protection of employees who might be adversely affected thereby. Earlier moves in this direction were noted in Railway Age of January 6, page 135.

The applications lately filed are essentially like those already before the Commission in that the R. L. E. A. asks for authority to intervene in cases to which it was not originally a party, and then petitions the Commission for further consideration of the individual cases in which applications are filed, urging that specific conditions such as were prescribed in the Burlington case (Finance Docket 14426, reported in Railway Age of November 18, 1944, page 799) be imposed in these cases, or, alternatively, that the Commission extend its reservation of jurisdiction for an additional 2 years.

The petitions recently filed apply to proceedings in which the original 2-year reservation of jurisdiction expires in February or March of this year. Their finance docket numbers are as follows: 13319 and 13981, each involving a Texas & Pacific abandonment; 14024, the Chicago, St. Paul, Minneapolis & Omaha; 14043, the Chesaapeake & Ohio; and 14108, the Vir-

Responding to R. L. E. A. petitions of this character filed earlier, as noted in this column in the issue of January 6, the Pere Marquette has submitted a reply in F. D. 14006 in which it again urges the Commission to deny the unions' application or, instead, to institute a general investigation of the matter of employee protection in abandonment proceedings. The Chicago, Rock Island & Pacific likewise has replied to a petition in the F. D. 13928 proceeding, in which it denies that any employees have been adversely affected, but expresses the view that it would be preferable for the Commission to extend its reservations of jurisdiction for an additional period rather than to impose the Burlington case conditions or to reopen the proceeding for further hearings. The carrier pointed out also that the Commission, through the reservation originally imposed, already had afforded employees whom the abandonment might effect protection for a 2-year period, although the legislation enacted for the benefit of veterans of the present war results in protection for them for one year only.

CHICAGO & NORTH WESTERN.—This road has renewed its application to the Interstate Commerce Commission for authority to abandon its 37.69-mile line between

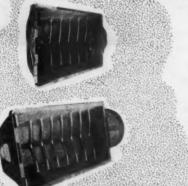


34 RAILROADS

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NEW YORK . CHICAGO

SECURITY CIRCULATOR DIVISION

Belle Plaine, Iowa, and What Cheer. As noted in the Railway Age of April 3, 1943, page 695, the original application was denied by the commission without prejudice to renewal after the then current "shortage of short-haul trucking facilities" had been overcome. The present application states that operating results on the line have been more unfavorable than previously, since the closing of the original record.

CHESAPEAKE & OHIO-VIRGINIAN.—The Chesapeake & Ohio and the Virginian have been authorized by Division 4 of the Interstate Commerce Commission to abandon, and to abandon operation under trackage rights on, respectively, a 0.98-mile line near Tamroy, W. Va.

NASHVILLE, CHATTANOGA & St. Louis.—This company has applied to the Interstate Commerce Commission for authority to abandon a portion of a branch from Lewisburg, Tenn., to Columbia, 18.26 miles.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Division 4 of the Interstate Commerce Commission has authorized this road and the Wisconsin Central to abandon operation of and to abandon, respectively, a branch from Stevens Point, Wis., to Portage, 69.2 miles, together with a branch connecting therewith running from Packwaukee Junction to Montello, 7.7 miles, but such authorization is not to become effective until 6 months after the termination of the war in Europe. Jurisdiction was reserved for a period of 2 years from that time for the protection of employees who might be adversely affected.

As noted in Railway Age of July 15, 1944, page 137, the recommendation in the examiner's proposed report in this proceeding was for denial of the application without prejudice to its renewal at the end of 1945, by which time it was suggested that the shortage of motor truck facilities now prevailing may be somewhat alleviated. The examiner also proposed that an arrangement might be made with the Green Bay & Western for operation under trackage rights between Stevens Point and Plover, about 4 miles, but the applicants replied that the expense would be excessive for the probable period of continued operation. The division pointed out that the commission has no authority to order a carrier against its will to discontinue the use of its own line and use the tracks of another, and therefore accepted the applicants' view that continued use of the existing line for a relatively short period would be more economical.

There being no dispute as to the justification of abandonment of the line when adequate trucking facilities can be secured by certain shippers and receivers of bulk commodities now patronizing it, the division was faced with the question whether to accept the examiner's recommendation or to grant the application on condition that its effective date should await the end of the war in Europe. The latter action was not opposed by the applicants, but they asked that a definite decision be made on the matter, while the protesting shippers and associated parties objected to the division attempting to prejudge

when trucking facilities might be available and also argued that the burden of proof as to the necessity of abandonment later should continue to rest on the carriers. Because the expenditures required to continue the branch in service will depend on how long its operation is likely to continue, the division held it to be desirable to fix that time as far as circumstances permit. Because of the uncertainty as to when abandonment will be effected, no conditions for the protection of employees were prescribed but jurisdiction was reserved.

WHITE SULPHUR SPRINGS & YELLOW-STONE PARK.—At this road's request, Division 4 of the Interstate Commerce Commission has dismissed its application for authority to abandon its entire line from White Sulphur Springs, Mont., to Dorsey, 19.22 miles, and to abandon operation of a leased from Dorsey to Ringling, 5.42 miles, leased from the Chicago, Milwaukee, St. Paul & Pacific.

Railway Officers

EXECUTIVE

Cedric A. Major, general solicitor of the Lehigh Valley, has been elected vicepresident and general counsel at New York, succeeding Richard W. Barrett,



Cedric A. Major

who has retired. Mr. Major was born at Otisville, N. Y., and received his LL.B. from Cornell University in 1913. He entered the service of the Lehigh Valley in September, 1916, as an attorney in the law department, and served from 1917 to 1918 as an officer in the United States Army during World War I. In 1922 he was named assistant general solicitor of the Lehigh Valley and in 1927 he became assistant general counsel. He was appointed general solicitor in 1942, the position he held at the time of his recent election to vice-president and general counsel.

Mr. Barrett, who was born at Hillsboro, Ohio, on July 11, 1872, was graduated from Earlham College, Richmond, Ind., in 1897, and received his LL.B. from the University of Pennsylvania in 1905. He was admitted to the Philadelphia (Pa.) bar in 1905 and the New York bar in 1913. Mr. Barrett began his legal practice as assistant counsel for the Council of Seventy in 1905, and became a lecturer at the Wharton School of Finance, University of Pennsylvania, in 1906. He served as a police magistrate in Philadelphia from 1909 to 1911, when he resigned to become an attorney of the Lehigh Valley. He served as assistant general solicitor from 1913 to 1920, when



Richard W. Barrett

he became general solicitor; and in 1927 he was named vice-president and general counsel, in which position he remained until his recent retirement.

Harold R. German, secretary and treasurer of the Lehigh Valley, has been elected vice-president in charge of finance and accounting, with headquarters, as before, at New York.

FINANCIAL, LEGAL AND ACCOUNTING

Dennis J. Mullane, assistant to the president of the Lehigh Valley at New York, has been named secretary and treasurer, succeeding Harold R. German, whose election to vice-president in charge of finance and accounting is announced elsewhere in these columns.

J. H. Reddy, auditor of miscellaneous accounts of the Delaware & Hudson at Albany, N. Y., has been named general auditor with the same headquarters. The position of auditor of miscellaneous accounts has been abolished; and the duties formerly assigned to that position, including loss and damage freight claim transactions, and road and equipment matters, have been transferred to the jurisdiction of the general auditor.

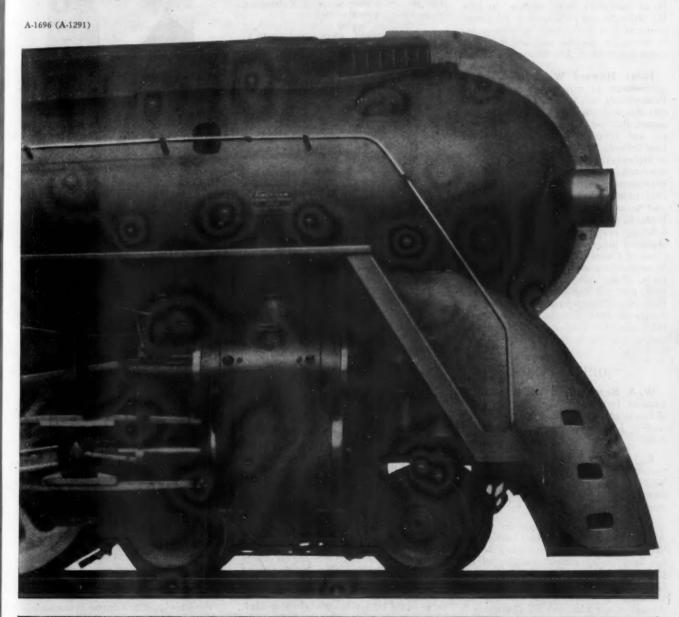
W. F. Gleeson, claims attorney of the Lehigh Valley at New York, has been appointed assistant general counsel with the same headquarters, and V. P. Sennett, assistant claims attorney, has been promoted to claims attorney succeeding him. P. G. Martin and C. A. Phillipps have also been named assistant general counsel at New York. H. W. Smith, E. S.

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John F. Riley has been appointed assistant comptroller of the Delaware & Hudson with headquarters, as before, at New York. Mr. Riley, who was born and educated at Troy, N. Y., entered railroad service in the revenue department of the Delaware & Hudson in 1912. After serving in various positions in the federal auditor's office, he became chief clerk in the office of the auditor, where he remained until 1920 when he transferred to the accounting office of the traction line subsidiaries of the D. & H. as chief clerk to the auditor. In 1924 Mr. Riley became chief clerk to the comptroller at New York, where he subsequently served in various positions until his recent appointment as assistant comptroller.

Judge Howard W. Hughes, whose appointment as general solicitor of the Pennsylvania was announced in the Railway Age of January 20, was born at Washington, Pa., and is a graduate of Washington and Jefferson College and Harvard Law School. He was admitted to the bar in September, 1914. In April, 1917, he was appointed assistant district attorney of Washington County, Pa., and in October, 1920, county solicitor. He was named district attorney of the county in February, 1922, and then was elected to that office the following year. On May 20, 1929, he was appointed judge of the Washington County Court of Common Pleas, and the following November he was elected for a term of ten years. Judge Hughes was re-elected in 1939, and was appointed a judge of the Pennsylvania State Supreme Court on December 30, 1943, to serve until January 1, 1945, when he assumed his new duties as general solicitor of the Pennsylvania.

OPERATING

W. A. Bowditch has been named night terminal trainmaster, Reading Terminal, of the Reading, at Philadelphia, Pa., succeeding J. F. Gruber, assigned to other duties.

R. J. Barnes has been appointed trainmaster of the Buffalo division of the New York Central, and F. W. Trimmer has been appointed trainmaster of the Pennsylvania division.

R. W. Marye, chief engineer of the Atlantic Coast Line and the Charleston & Western Carolina at Wilmington, N. C., has been named general manager of the Charleston & Western Carolina àt Augusta, Ga., succeeding W. S. Baker, whose appointment as chief of personnel of the Atlantic Coast Line and the Charleston & Western Carolina is announced elsewhere in these columns.

M. H. Gold, assistant general manager of the Seaboard Air Line at Raleigh, N. C., has been appointed superintendent of the Alabama division at Savannah, Ga., succeeding J. L. Cooke, who has been named assistant general superintendent, transportation, at Norfolk, Va. C. E.

Miller, acting superintendent, has been appointed superintendent of the Carolina division at Savannah.

A. W. Lashoske, assistant superintendent of the Michigan division of the Michigan Central at Jackson, Mich., has been promoted to superintendent of that division, with the same headquarters, succeeding E. G. Wright, who has been assigned to other duties because of illness. O. F. McIsaac, trainmaster at Kalamazoo, Mich., has been advanced to assistant division superintendent, with headquarters at Bay City, Mich., relieving E. H. O'Keefe, who has been transferred to Jackson, succeeding Mr. Lashoske. W. B. Salter has been appointed trainmaster at Kalamazoo, where he relieves Mr. McIsaac.

D. G. Whitfield, whose appointment as superintendent, communications, of the Southern at Charlotte, N. C., was announced in the Railway Age of January 13, was born in Pittsylvania County, Va., on April 29, 1893, and entered railway service with the Southern as a telegrapher of the Danville division on September 27, 1909.



D. G. Whitfield

He transferred to the relay telegraph office at Greensboro, N. C., on July 1, 1910, and was subsequently promoted to wire chief and manager there. On August 1, 1927, he was advanced to chief clerk in the office of the superintendent of communications at Charlotte, the position he held at the time of his recent appointment.

Paul E. Feucht, whose promotion to general manager, western region, of the Pennsylvania, with headquarters at Chicago, was reported in the Railway Age of January 20, was born at Indianapolis, Ind., on January 4, 1900, and received his college education at Purdue University. He entered the service of the Pennsylvania on March 1, 1923, as an assistant on the engineering corps of the Louisville division and in May, 1925, he was transferred to the Indianapolis division. In January, 1927, he was promoted to assistant track supervisor and assigned to the Philadelphia Terminal division, and in September, 1928, he was transferred to Tyrone, Pa. Mr. Feucht was advanced to track supervisor at Norristown, Pa., in January, 1929, and a year later he was transferred to the main line at Tyrone. For a few months in 1933, he

was relieved of his track work and assigned to special duty in the motor service and upon the completion of this work in July, 1933, he was promoted to division engineer of the Renovo division. In October, 1934,



Paul E. Feucht

he was transferred to the Fort Wayne division. Mr. Feucht was advanced to superintendent of the Wilkes-Barre division on April 1, 1935, and on May 1, 1936, he was appointed superintendent of passenger transportation of the Eastern region, with headquarters at Philadelphia, Pa. In 1939 he was promoted to general superintendent of the Southwestern division, with headquarters at Indianapolis, Ind., and in February, 1942, he was transferred to the Lake division, with headquarters at Cleveland, Ohio, remaining in that location until his new appointment.

Harry L. Nancarrow, whose promotion to general manager of the Pennsylvania's eastern region with headquarters at Philadelphia, Pa., was announced in the Railway Age of January 20, was born at Jersey Shore, Pa., on January 13, 1897, and



Harry L. Nancarrow

received his bachelor's degree in mechanical engineering from Bucknell University in 1920. He entered railroading with the Pennsylvania the same year as a draftsman at Harrisburg, Pa., and in 1921 he was appointed a special apprentice at the Altoona works. After serving briefly as a motive power inspector at Altoona he became gang foreman at Cleveland, Ohio, in September, 1924, and two years later he was named assistant foreman there. Mr.

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Nancarrow was appointed assistant master mechanic at Akron, Ohio, in March, 1927, and master mechanic of the Erie and Ashtabula division at New Castle, Pa., in May, 1928, subsequently serving in the same capacity on the Baltimore, Atlantic, Schuylkill, and Philadelphia Terminal divisions in September, 1936, he was promoted to superinfendent of the Logansport division at Logansport, Ind. He transferred to the Buffalo division in January, 1938, and in May, 1939, was appointed superintendent, passenger transportation, eastern region, with headquarters at Philadelphia. He was named superintendent of the Pittsburgh division in January, 1940, and one year later was advanced to general superintendent of the Lake division. On February 16, 1942, Mr. Nancarrow was promoted to general manager, western region, at Chicago, the position he held at the time of his recent promotion to general manager, eastern region.

James L. Cranwell, whose appointment as general superintendent of the Lake division of the Pennsylvania at Cleveland, Ohio, was announced in the Railway Age



James L. Cranwell

of January 20, was born at Shreveport, La., on October 31, 1905, and received his degree in civil engineering from the University of South Carolina in 1926. He entered the service of the Pennsylvania that same year as a rodman at Cape Charles, Va., and-after serving in various capacities on the Baltimore, Middle, Trenton, New York, Ft. Wayne, Philadelphia, Williamsport and Pittsburgh divisions-was appointed division engineer of the St. Louis division on February 1, 1938. He transferred to Columbus, Ohio, on January 16, 1939, and to the eastern division on October 1, 1939. On June 16, 1940, Mr. Cranwell was appointed superintendent of the Monogahela division at Pittsburgh, Pa., transferring subsequently to the Indianapolis division at Indianapolis, Ind., and, on July 1, 1942, to the Philadelphia Terminal division at Philadelphia, where he was located at the time of his recent promotion to general superintendent at Cleveland.

TRAFFIC

Elmer E. Gordon, district passenger agent of the Chicago & Eastern Illinois at Jacksonville, Fla., has been promoted to general passenger agent, with headquarters at Chicago, a newly-created position. B. D. Johnston, city ticket agent of the Florida East Coast at Jacksonville, has been appointed district passenger agent of the C. & E. I. there succeeding Mr. Gordon.

R. J. Tyner, commercial agent of the Kansas City Southern and of the Louisiana & Arkansas at Dallas, Tex., has been promoted to general agent of both roads, with headquarters at San Antonio, Tex.

Almus L. Roundtree, baggage and ticket stock agent of the Western Pacific, has been promoted to manager of the baggage, mail and express department, with headquarters as before at San Francisco, Cal.

James E. Riley, commercial agent of the Southern at New York, has been promoted to district freight and passenger agent with the same headquarters, succeeding Jerry L. Townshend, whose appointment as district freight agent at Atlanta, Ga., was announced in the December 30 issue of Railway Age.

Ernest J. Carr, assistant traffic manager of the Illinois Central at St. Louis, Mo., has been promoted to general eastern traffic manager, with headquarters at New York. Charles H. Campbell, general traffic agent at Louisville, Ky., has been advanced to assistant traffic manager, with headquarters at St. Louis, succeeding Mr. Carr, and Harry W. Williams, general agent at Minneapolis, Minn., has been promoted to general traffic agent at Louisville, relieving Mr. Campbell.

F. E. McGrath, general freight agent of the Boston & Albany (an affiliate of the New York Central) at Boston, Mass., has been appointed assistant freight traffic manager with the same headquarters succeeding E. P. Gardiner, who has retired after nearly 50 years of service. W. L. Wheat, assistant general freight agent and industrial agent at Boston, has been promoted to general freight agent there replacing Mr. McGrath and A. E. Crocker, northeastern agent of the New York Central at Boston, has been named assistant general freight agent and industrial agent, succeeding Mr. Wheat. G. D. Avery has been appointed assistant general freight agent, also at Boston.

MECHANICAL

George C. Shugars, formerly an engine house foreman of the Reading, has been appointed master mechanic of the Reading division.

H. G. Dugan, general foreman of the New York, Chicago & St. Louis shops at Conneaut, Ohio, has been appointed master mechanic of the Toledo Terminal Railroad at Toledo, Ohio.

R. R. Sneddon, assistant to the superintendent of equipment of the Michigan Central at Detroit, Mich., has been promoted to assistant superintendent of equipment, with the same headquarters, succeeding E. C. Richards, who has retired after more than 46 years of service. G. H. Rushford has been appointed car foreman, with headquarters at Battle Creek, Mich., replacing R. E. Metz, who has retired.

H. W. Pinkerton, electrical and mechanical engineer of the Cleveland Union Terminal at Cleveland, Ohio, has retired after more than 38 years of service. C. O. Beck has been appointed engineer, plant maintenance, at Cleveland.

ENGINEERING & SIGNALING

Henry L. Stanton, whose appointment as superintendent of telegraph and signals, eastern region, of the Pennsylvania at Philadelphia, Pa., was announced in the Railway Age of January 27, was born at Bridgeport, N. J., on November 3, 1887, and attended Temple University at Philadelphia. He entered railroading on April 17, 1906, as a signal laborer on the West Jersey & Seashore division of the Pennsylvania, and after serving in various capacities in the signal department, he was promoted to signal foreman, Middle division of the Pennsylvania on December 5,



Henry L. Stanton

1912, becoming assistant inspector of signals in the general office in August, 1916, and assistant supervisor of signals, Renovo division, in 1917. He transferred to the Pittsburgh division in December of that year and on May 1, 1920, was appointed supervisor of telegraph and signals of that division, where he remained until January, 1927, when he was named telegraph and signal engineer, western region, at Chicago. On April 16, 1931, Mr. Stanton was transferred to the office of the chief engineer at Philadelphia, and one year later he was appointed superintendent, telegraph and signals, with the same headquarters. In April, 1937, he was named assistant chief engineer-signals, the post he held at the time of his recent assignment as superintendent, telegraph and signals, eastern

W. G. Pfohl, assistant division engineer of the Maryland division of the Pennsylvania, has been promoted to division engineer with headquarters, as before, at Baltimore, Md., succeeding Buford W. Tyler, Jr., whose appointment as superintendent



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of the Renovo division at Erie, Pa., was announced in the Railway Age of January 27. T. J. Murray, assistant division engineer of the New York division at Jersey City, N. Y., has been advanced to division engineer of the Conemaugh division with headquarters at Pittsburgh, Pa., succeeding W. G. Dorwart, who has been transferred to the Pittsburgh division at Pittsburgh to replace A. J. Greenough, whose promotion to superintendent of the Wilkes-Barre division was announced in the Railway Age of January 27.

Walker Paul, executive assistant in the office of the president of the Southern Pacific at San Francisco, has been promoted to assistant to the chief engineer, with the same headquarters.

W. P. Sullivan, assistant to the chief engineer of the Chicago, Indianapolis & Louisville, has been appointed chief engineering assistant and land and tax agent, with headquarters as before at Lafayette, Ind.

John I. Kirsch, whose appointment as engineer of tests-signals, on the staff of the chief engineer of the Pennsylvania, was announced in the Railway Age of January 27, was born at Rosemont, Pa., on September 27, 1894, and was graduated from Villa-nova College in 1917 with a B. S. E. E. degree, later receiving the degree of electrical engineer. In June, 1917, Mr. Kirsch entered the service of the Pennsylvania at Paoli, Pa., as a laborer, and after serving as bonus clerk and special apprentice in the telegraph and signals department he was furloughed for military service, returning as special apprentice, New York division, in July, 1919. He was subsequently appointed to the successive positions of assistant signal foreman, Atlantic division; foreman, telegraph and signals, of the Sunbury division; assistant supervisor, telegraph and signals, of the Baltimore division, signal inspector, Western region; and



John I. Kirsch

supervisor, telegraph and signals, of the Long Island. On August 1, 1931, Mr. Kirsch was transferred to the New York division of the Pennsylvania, and in 1937 was assigned to special duty in the office of the chief engineer. He became assistant superintendent, telegraph and signals, eastern region, in January, 1939, and in March, 1944, was promoted to superintendent, telegraph and signals, eastern region, the position he held at the time of his recent assignment as engineer of tests—signals.

Harvey C. Griffith, whose appointment as assistant chief engineer-traction, communications, signals-of the Pennsylvania at Philadelphia, Pa., was announced in the Railway Age of January 27, was born at New Enterprise, Pa., on June 17, 1890, and received his degree in electrical engineering from Lehigh University in 1914. He entered the service of the Pennsylvania in February, 1915, as a draftsman in the office of the electrical engineer at Altoona, Pa., and transferred to Philadelphia in 1916, working in various capacities on the Paoli and Chestnut Hill electrifications. In 1923 Mr. Griffith was furloughed to Gibbs & Hill, consulting engineers, to serve as construction superintendent during the installation of substations and lines for power supply to the West Jersey & Seashore (now



Harvey C. Griffith

the Pennsylvania-Reading Seashore Lines), and the closing down of a company-owned power plant at Westville, N. J. Upon completion of this work he returned to the electrical engineer's office of the Pennsylvania as foreman, in which capacity he continued until May 1, 1927, when he was appointed assistant engineer, with the special assignment of preparing an elecrification study for the eastern territory of the Pennsylvania. When this work was completed he again returned to the electrical engineer's office being named assistant electrical engineer in May, 1929, and was actively engaged in the New York-Washington electrification project. On July 1, 1935, Mr. Griffith was promoted to electrical engineer at Philadelphia, the position he held at the time of his recent appointment as assistant chief engineer.

L. S. Jeffords, chief of personnel of the Atlantic Coast Line and the Charleston & Western Carolina at Wilmington, N. C., has been named chief engineer of these roads with the same headquarters, succeeding R. W. Marye, whose appointment as general manager of the Charleston & Western Carolina is announced elsewhere in these columns.

PURCHASES AND STORES

J. J. McCoy, assistant district storekeeper of the Chicago, Burlington & Quincy at Chicago, has been appointed acting district storekeeper, with the same headquarters.

J. E. Pendleton, assistant fuel agent of the Southern at Knoxville, Tenn., has been named fuel agent there to succeed C. S. Mays, who has retired after 43 years of service.

C. E. Swanson, traveling storekeeper of the Chicago, Burlington & Quincy, with headquarters at Chicago, has been appointed acting general storekeeper, with the same headquarters, succeeding G. A. Goerner, who has been granted a leave of absence due to illness.

SPECIAL

The following men have been appointed supervisors of safety of the Atchison, Topeka & Santa Fe, with headquarters as indicated: Charles H. Robinson, La Junta, Colo.; William J. Tillman, Winslow, Ariz., and Walter J. Piper, Argentine, Kan.

W. S. Baker, general superintendent of the Charleston & Western Carolina at Augusta, Ga., has been named chief of personnel of that road and of the Atlantic Coast Line, with headquarters at Wilmington, N. C., succeeding L. S. Jeffords, whose appointment as chief engineer of the two roads is announced elsewhere in these columns. L. E. Hart has been appointed personnel officer of the Atlantic Coast Line, and W. L. Dixson and J. L. Hodges have been named personnel assistants, all at Wilmington.

OBITUARY

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Charles A. Canning, who retired in 1937 as assistant general freight agent of the Green Bay & Western, with headquarters at Minneapolis, Minn., died at his home in that city on January 19.

William O. Parker, general agent of the Louisville & Nashville, with headquarters at Louisville, Ky., died suddenly in that city on January 22 following a heart attack.

George Alexander Masengill, assistant general auditor of the Clinchfield at Erwin, Tenn., whose death on January 2 was reported in the Railway Age of January 13, was born near Piney Flats, Tenn., on November 24, 1888, and entered railroad service with the Southern at Johnson City, Tenn., in December, 1907. He joined the Carolina, Clinchfield & Ohio (now the Clinchfield) in July, 1909, as a utility clerk at Johnson City, and after serving in various clerical positions, including general bookkeeper, station accountant, assistant to auditor, assistant auditor, and auditor of revenue, he was named revenue accountant on March 1, 1920. In May, 1930, he was promoted to assistant general auditor at Erwin, the position he held at the time of his death.



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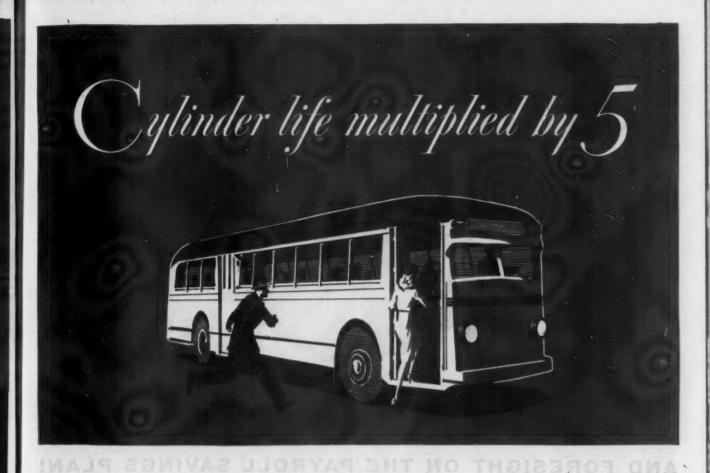
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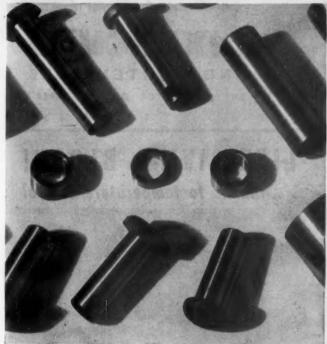
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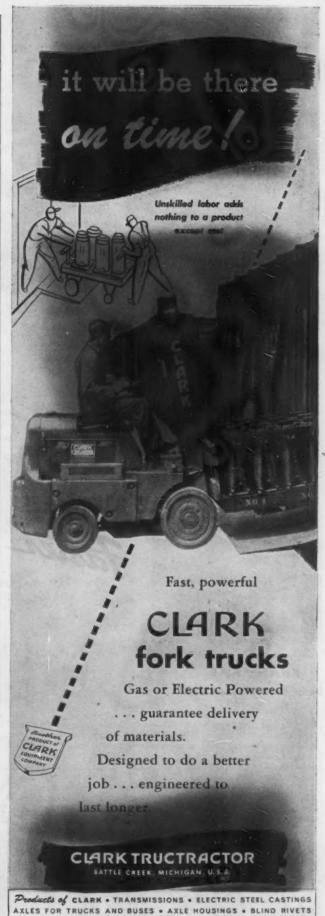




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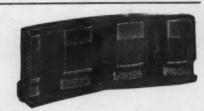
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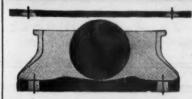




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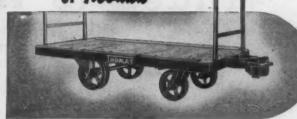
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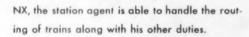
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With NX, the operator directs train movements through large or small interlockings with equal speed and simplicity. Large or small, a replica of the plant layout is engraved on the control panel in plain view of the operator. On it are all the necessary knobs and buttons to give complete control of all functions in the plant area. The entrance of a train into the plant is visually indicated and audibly announced to the operator. The operator, knowing its destination has merely to push an entrance knob where the train is to enter and an exit button where it is to depart—NX does the rest—automatically positioning the necessary switches and clearing the required signals. If a normal route is not available, NX will automatically select and set up the best optional route, without any further action by the operator.

In some instances, smaller plants have been installed where the control machine has been located in a station agent's office. Because of the ease with which routes may be lined up with



The operating advantages to be obtained by the installation of NX are so great that it is no longer sound economics to repair or rework. "old" interlockings.

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